DOE/EIA-0035/2
NTISUB/D/127-002

February 1978

Monthly Energy Review

U.S. Department of Energy
Energy Information Administration
National Energy Information Center

The *Monthly Energy Review* is prepared in the Energy Information Administration, U.S. Department of Energy, under the general supervision of Albert Linden.

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The cooperation of other government agencies and private establishments which provide data appearing in this publication is gratefully acknowledged.

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Subscriptions
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

For addresses within the North American Continent, the cost is $50 per year (12 issues), or $68 per year for priority mailing. For addresses outside the North American Continent, the cost is $100 per year. Single copies are available at $6.25 each within the North American Continent and $12.50 each outside the North American Continent.

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Feature articles appearing in previous issues:

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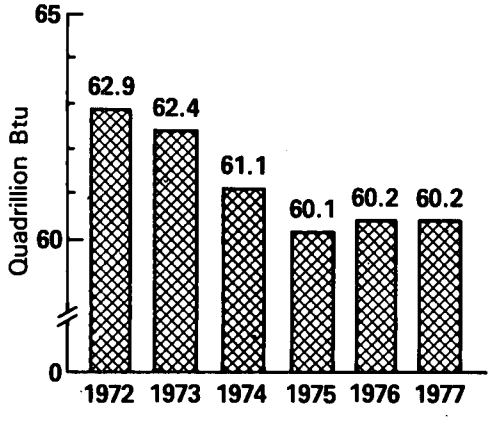
Overview

Average daily energy production in the United States fell to its lowest level of the year during December, with most of the drop attributed to the coal strike. Energy output during the month averaged 150 trillion Btu per day (or 26 million barrels per day of crude equivalent*), down 14 percent from the November production rate and down 10 percent from the December 1976 rate. Coal production decreased to less than half of the total amount for the previous month, reflecting the United Mine Workers of America strike that began December 6. Oil production was 2 percent lower than in November. Average daily production of the other major energy resources increased in December as follows: natural gas, 3 percent; hydroelectric power, 7 percent (the first increase since March 1977); and nuclear power, 20 percent.

Despite the loss in coal output associated with the strike, total domestic energy production in 1977 amounted to 60.2 quadrillion Btu, only 0.1 percent below the total for 1976, and in fact, 0.1 percent greater than the output during 1975. Figure 1 displays the trend in domestic energy production for the years, 1972-77.

Figure 1. Domestic Energy Production

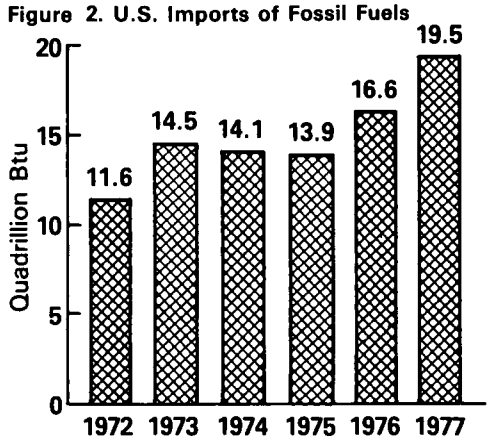


Crude oil production during 1977 was 1 percent higher than in 1976, natural gas production remained about the same, and nuclear power generation increased 30 percent. Coal and hydroelectricity production, on the other hand, were lower by 1 percent and 22 percent, respectively.

*One barrel of crude oil contains approximately 5.8 million Btu.

December 1977 U.S. fossil fuel imports were 2 percent greater than in November but 4 percent lower than in December 1976. It was the second time in 1977 that imports fell below 1976 levels. The annual 1977 fossil fuel import total was a record high 19.5 quadrillion Btu (the equivalent of 9 million barrels per day of crude oil*), up 18 percent from the 1976 total (see Figure 2). Imports of crude oil were 24 percent higher in 1977, refined petroleum products, 6 percent higher, and natural gas, 3 percent higher.

Figure 2. U.S. Imports of Fossil Fuels



The United States consumed 4 percent less energy in November 1977 than in November 1976, the first year-to-year consumption decline in 1977. Petroleum and natural gas consumption were 3 percent and 11 percent lower, respectively, while consumption of coal was essentially unchanged. These demand reductions reflect to a great extent differences in weather, as November 1977 was considerably warmer than November 1976. (Heating degree-days in November 1977 were 27 percent below the level for November 1976). Use of hydroelectric and nuclear power in November increased by 3 percent and 17 percent, respectively, compared with usage 1 year earlier.

Domestic energy consumption in the first 11 months of 1977 was 3 percent greater than during the January-November period of 1976, with the following percent changes noted: petroleum, +6 percent; coal, +6 percent; natural gas, -3 percent; hydroelectric power, -24 percent; and nuclear power, +33 percent.

In anticipation of the impending coal strike, utilities continued to build up their coal and oil stockpiles in November 1977 to the largest end-of-month levels on record. Utility coal stocks on November 30 totaled 149 million tons (equal to 116 days' supply at November burn rates), 25 percent higher than the level 1 year earlier. Utility oil stocks were 148 million barrels (103 days' supply), an increase of 17 percent over 1976 stocks.

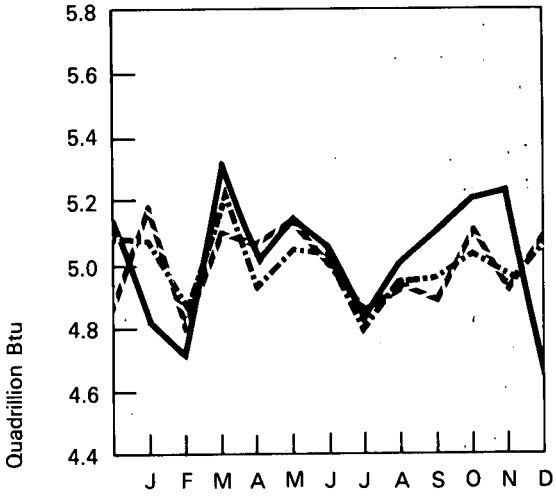
Oil and gas well completions during 1977 outnumbered those in 1976 by 13 percent, resulting in a total of 44,894 wells, the best year since 1959. The well breakdown for 1977 is as follows: gas wells, 11,363 (the fifth consecutive annual record high); oil wells, 18,889; and dry holes, 14,642. Despite the growth in drilling activity, estimated proved reserves of crude oil and natural gas on December 31, 1977, were 2.3 percent and 3.5 percent lower than their respective levels at the end of 1976.

World crude oil production averaged 60.1 million barrels per day during November. The Organization of Petroleum Exporting Countries (OPEC) accounted for 52 percent of the total.

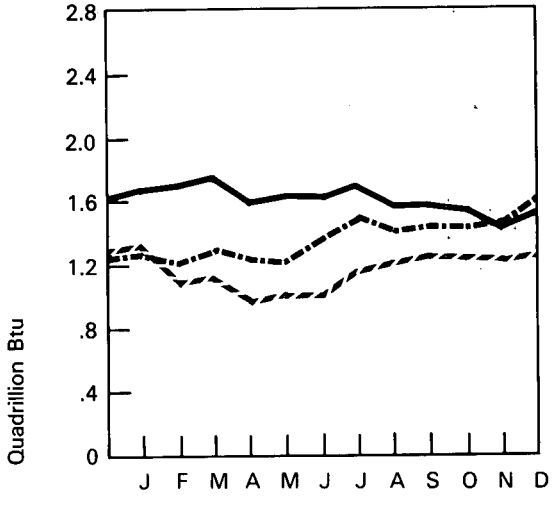
		Domestic Production of Energy*	Imports of Fossil Fuels**	Domestic Consumption of Energy***
1972	**TOTAL**	**62.937**	**11.563**	**71.895**
1973	**TOTAL**	**62.373**	**14.519**	**74.551**
1974	**TOTAL**	**61.138**	**14.114**	**72.601**
1975	January	5.199	1.334	6.927
	February	4.793	1.093	6.054
	March	5.118	1.128	6.267
	April	5.060	0.971	5.685
	May	5.148	1.030	5.368
	June	4.999	1.027	5.315
	July	4.849	1.164	5.550
	August	4.942	1.220	5.634
	September	4.896	1.272	5.388
	October	5.118	1.232	5.801
	November	4.918	1.210	5.747
	December	5.095	1.255	6.821
	TOTAL	**60.134**	**13.935**	**70.557**
1976	January	5.087	1.297	R7.178
	February	4.867	1.209	R6.254
	March	5.219	1.300	R6.260
	April	4.957	1.246	R5.737
	May	5.071	1.231	R5.661
	June	5.067	1.390	R5.698
	July	4.808	1.506	R5.889
	August	4.964	1.417	R5.830
	September	4.974	1.465	R5.608
	October	5.045	1.448	R6.110
	November	4.964	1.498	R6.592
	December	5.182	1.609	R7.499
	TOTAL	**60.206**	**16.617**	**R74.318**
1977	January	4.819	1.700	7.706
	February	4.704	1.718	6.522
	March	5.323	1.786	6.400
	April	5.004	1.604	R5.833
	May	5.154	1.638	5.850
	June	5.059	1.632	5.936
	July	R4.822	R1.714	6.058
	August	R5.023	†1.585	†6.105
	September	R5.138	R†1.587	R†5.949
	October	R†5.231	R†1.568	R†6.138
	November	R†5.245	R†1.464	†6.321
	December	†4.653	†1.544	NA
	TOTAL	**60.175** (12 months)	**19.539** (12 months)	**68.818** (11 months)

*See Explanatory Note 1.
**See Explanatory Note 2.
***See Explanatory Note 3.
†Preliminary data.
R=Revised data.
NA=Not available.
Source: Energy Information Administration (EIA) calculations based on data appearing elsewhere in this publication.

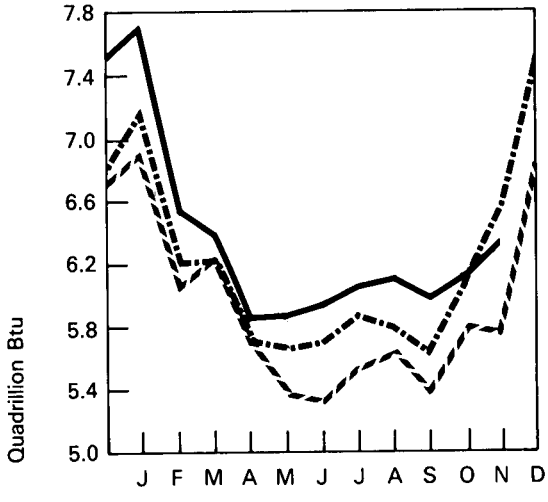
Domestic Production of Energy



Imports of Fossil Fuels



Domestic Consumption of Energy



1975 1976 1977

Part 2 Crude Oil and Refined Petroleum Products

Crude Oil and Refined Petroleum Products

Total petroleum imports averaged 8.0 million barrels per day in December 1977,* 4.5 percent below the December 1976 rate. Total imports for 1977 are estimated at 8.7 million barrels per day, 18.9 percent higher than the 1976 daily average.

Imports of crude oil averaged 6.0 million barrels per day in December, 1.6 percent above the rate a year earlier. Crude oil imports in 1977 are estimated at 6.6 million barrels per day, 25.7 percent above the 1976 import rate. Crude oil accounted for 76.7 percent of total petroleum imports in 1977, compared to 72.5 percent in 1976.

Total domestic demand for petroleum products averaged 19.5 million barrels per day in December 1977, 5.0 percent less than for a year earlier. The 1977 demand total is estimated at 18.4 million barrels per day, 5.2 percent higher than the 1976 rate. The major components of estimated 1977 total demand were: motor gasoline (39.0 percent of the total demand), distillate fuel oil (18.1 percent), and residual fuel oil (16.6 percent).

Motor gasoline demand averaged 7.2 million barrels per day in December, 0.8 percent above last December's rate. The 1977 estimated demand for motor gasoline is also 7.2 million barrels per day, 2.6 percent above the 1976 average.

Distillate fuel oil demand averaged 4.0 million barrels per day in December, 13.4 percent less than a year earlier. The 1977 average is estimated at 3.3 million barrels per day, 6.3 percent above the 1976 level.

Residual fuel oil demand averaged 3.3 million barrels per day in December, 7.4 percent less than a year earlier. The 1977 average is estimated at 3.0 million barrels per day, 9.3 percent above the 1976 demand.

Stocks of residual fuel oil totaled 90.2 million barrels at the end of December 1977, 24.7 percent above the level for December 1976. Stocks of distillate fuel oil were 244.6 million barrels at the end of December, 31.6 percent above the level a year earlier.

Domestic crude oil production averaged 8.5 million barrels per day in December, 6.6 percent above the production rate of December 1976. Crude oil production in 1977 is estimated at 8.2 million barrels per day, 1.1 percent above the 1976 rate.

*December 1977 estimates are based upon preliminary data from the American Petroleum Institute and will be revised to conform with data published in EIA *Energy Data Reports* as available.

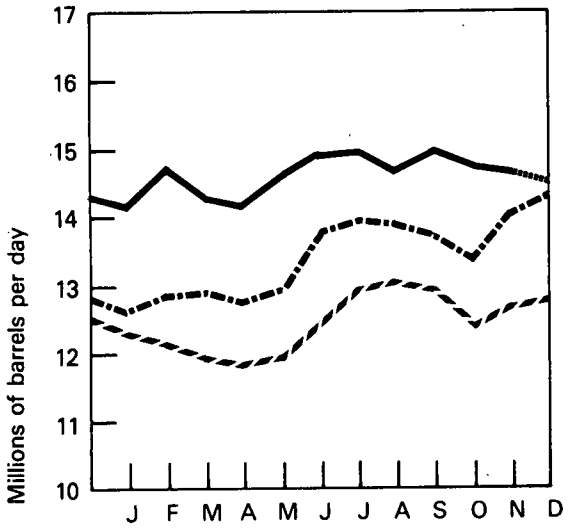
Crude Oil

		Crude Input to Refineries	Domestic Production*	Imports*	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	**AVERAGE**	**11,696**	**9,441**	**2,216**	****246,395**
1973	**AVERAGE**	**12,431**	**9,208**	**3,244**	****242,478**
1974	**AVERAGE**	**12,133**	**8,774**	**3,477**	****265,020**
1975	January	12,297	8,455	4,029	270,462
	February	12,135	8,591	3,828	276,755
	March	11,905	8,493	3,656	279,989
	April	11,803	8,457	3,378	281,908
	May	11,983	8,379	3,486	280,961
	June	12,417	8,421	3,905	276,132
	July	12,915	8,336	4,192	264,157
	August	13,046	8,249	4,581	256,616
	September	12,945	8,280	4,689	259,446
	October	12,365	8,324	4,389	269,584
	November	12,689	8,278	4,623	270,950
	December	12,779	8,254	4,476	271,354
	AVERAGE	**12,442**	**8,375**	**4,105**	
1976	January	12,560	8,211	4,595	289,296
	February	12,834	8,196	4,208	277,414
	March	12,877	8,175	4,738	283,112
	April	12,727	8,080	4,790	286,628
	May	12,920	8,168	4,669	283,982
	June	13,799	8,144	5,621	281,715
	July	13,901	8,104	5,792	282,599
	August	13,888	8,074	5,556	277,272
	September	13,716	8,185	5,875	284,357
	October	13,319	8,049	5,699	297,683
	November	14,101	8,043	5,946	298,836
	December	14,333	8,006	5,925	285,471
	AVERAGE	**13,416**	**8,119**	**5,287**	
1977	January	14,140	7,790	6,288	294,037
	February	14,740	8,067	6,652	291,387
	March	14,270	8,022	6,633	299,464
	April	14,185	8,079	6,785	318,588
	May	14,605	8,009	6,821	328,559
	June	14,867	8,039	6,997	333,635
	July	R14,884	R8,040	7,021	R335,193
	August	14,690	R8,244	6,286	330,471
	September	14,966	R8,416	6,557	323,327
	October	14,711	R8,589	R6,363	R330,956
	November	R14,611	R8,701	R6,157	R337,921
	December	14,548	8,539	6,021	338,107
	AVERAGE	**14,600**	**8,211**	**6,547**	

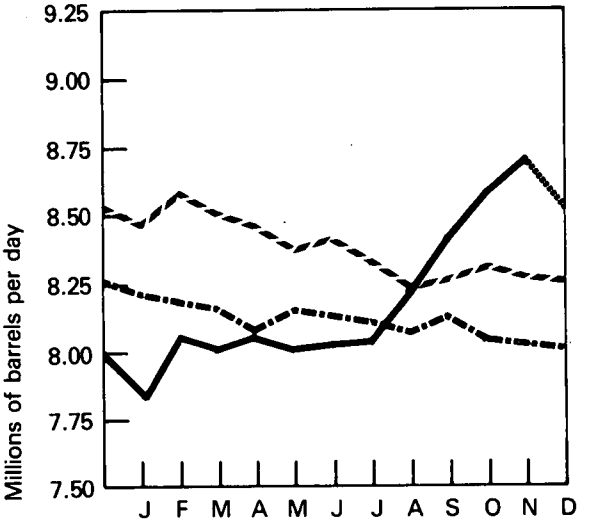
*See Definitions.
**Total as of December 31.
R=Revised data.
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through July 1977 (through September for Domestic Production) and "Monthly Petroleum Statistics Report" for August through November 1977; December 1977 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Crude Oil

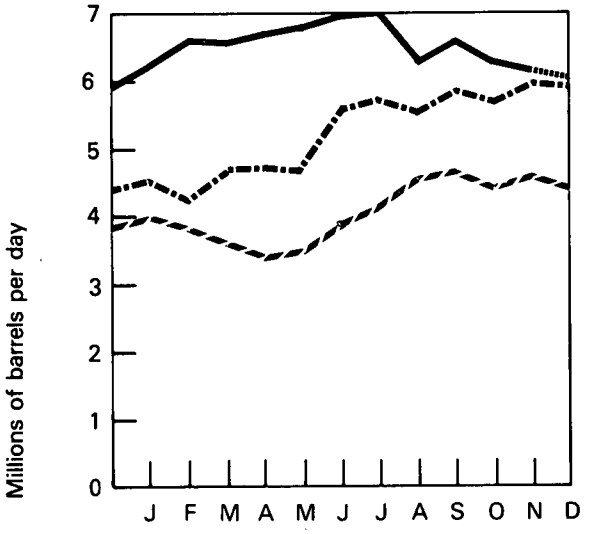
Crude Input to Refineries



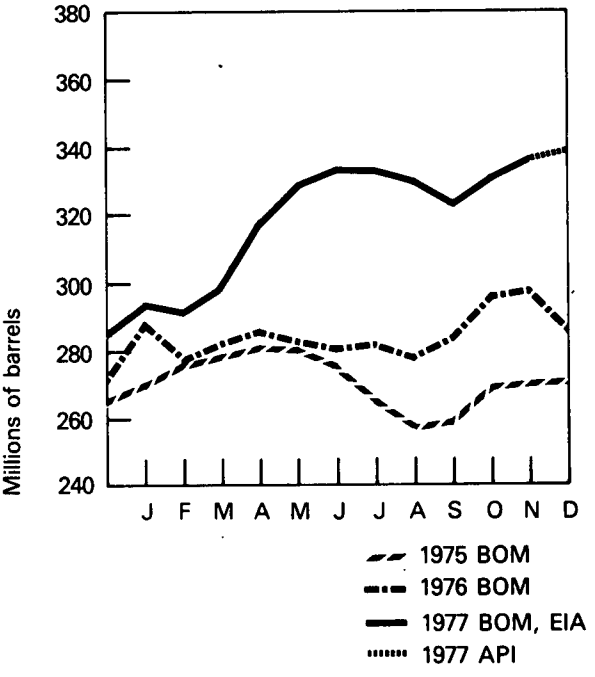
Domestic Production



Imports



Stocks



Total Refined Petroleum Products

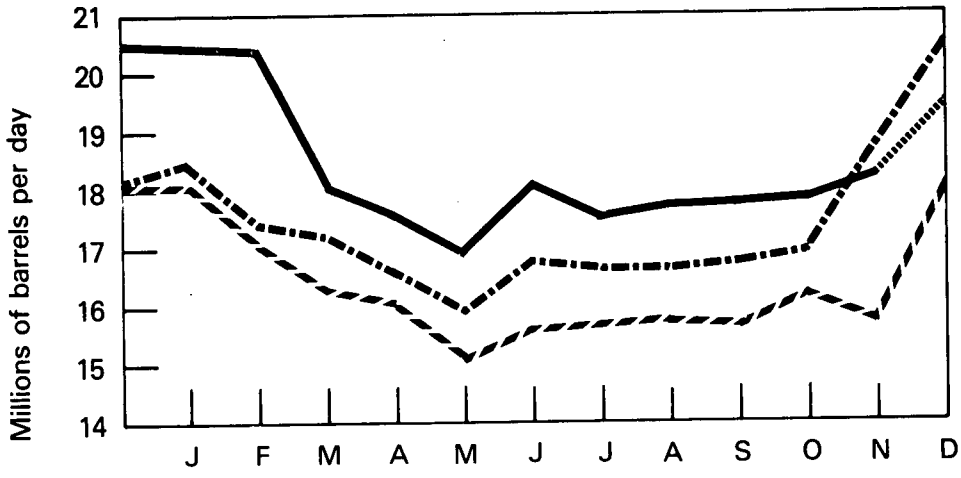
		Domestic Demand	Imports*
		Thousands of barrels per day	
1972	**AVERAGE**	**16,367**	**2,525**
1973	**AVERAGE**	**17,308**	**3,012**
1974	**AVERAGE**	**16,653**	**2,635**
1975	January	18,004	2,832
	February	17,084	2,348
	March	16,315	2,074
	April	16,048	1,662
	May	15,155	1,728
	June	15,610	1,502
	July	15,740	1,767
	August	15,806	1,717
	September	15,768	2,115
	October	16,377	1,940
	November	15,777	1,796
	December	18,185	1,949
	AVERAGE	**16,322**	**1,951**
1976	January	18,598	2,071
	February	17,429	2,423
	March	17,299	1,945
	April	16,671	1,805
	May	15,977	1,654
	June	16,836	1,858
	July	16,613	2,099
	August	16,642	1,826
	September	16,825	2,038
	October	17,052	1,808
	November	18,847	2,115
	December	20,506	2,468
	AVERAGE	**17,443**	**2,007**
1977	January	20,481	2,594
	February	20,427	3,278
	March	18,056	2,610
	April	17,570	1,886
	May	16,960	1,753
	June	18,048	1,872
	July	R17,549	R2,021
	August	17,778	2,015
	September	17,863	2,036
	October	R17,889	R1,818
	November	R18,244	R1,710
	December	19,478	1,997
	AVERAGE	**18,350**	**2,126**

Total Petroleum Imports (Crude Oil and Refined Products)

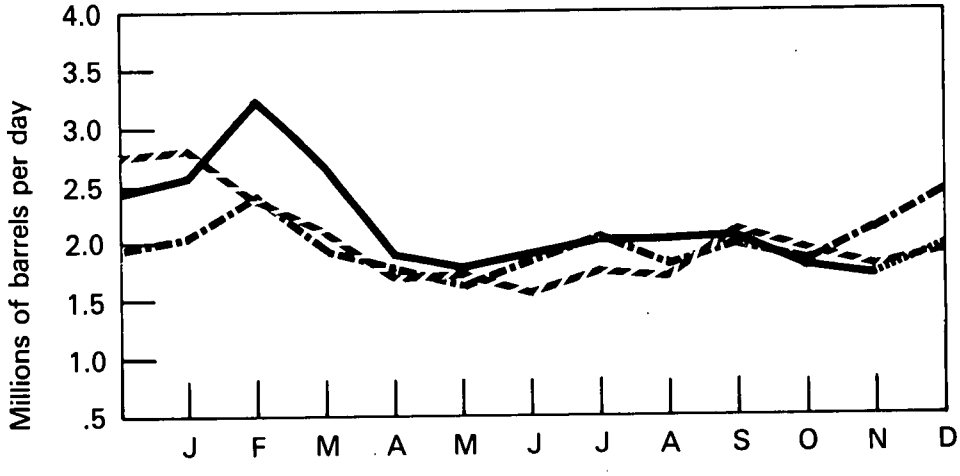
		Thousands of barrels per day
1972	**AVERAGE**	**4,741**
1973	**AVERAGE**	**6,256**
1974	**AVERAGE**	**6,112**
1975	January	6,861
	February	6,176
	March	5,730
	April	5,040
	May	5,214
	June	5,406
	July	5,959
	August	6,298
	September	6,804
	October	6,329
	November	6,419
	December	6,425
	AVERAGE	**6,056**
1976	January	6,666
	February	6,631
	March	6,683
	April	6,595
	May	6,323
	June	7,479
	July	7,890
	August	7,382
	September	7,913
	October	7,508
	November	8,060
	December	8,393
	AVERAGE	**7,295**
1977	January	8,882
	February	9,930
	March	9,243
	April	8,671
	May	8,574
	June	8,869
	July	R9,042
	August	8,301
	September	8,593
	October	R8,181
	November	R7,867
	December	8,018
	AVERAGE	**8,673**

*See Definitions.
R=Revised data.
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through July 1977 and "Monthly Petroleum Statistics Report" for August through November 1977; December 1977 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

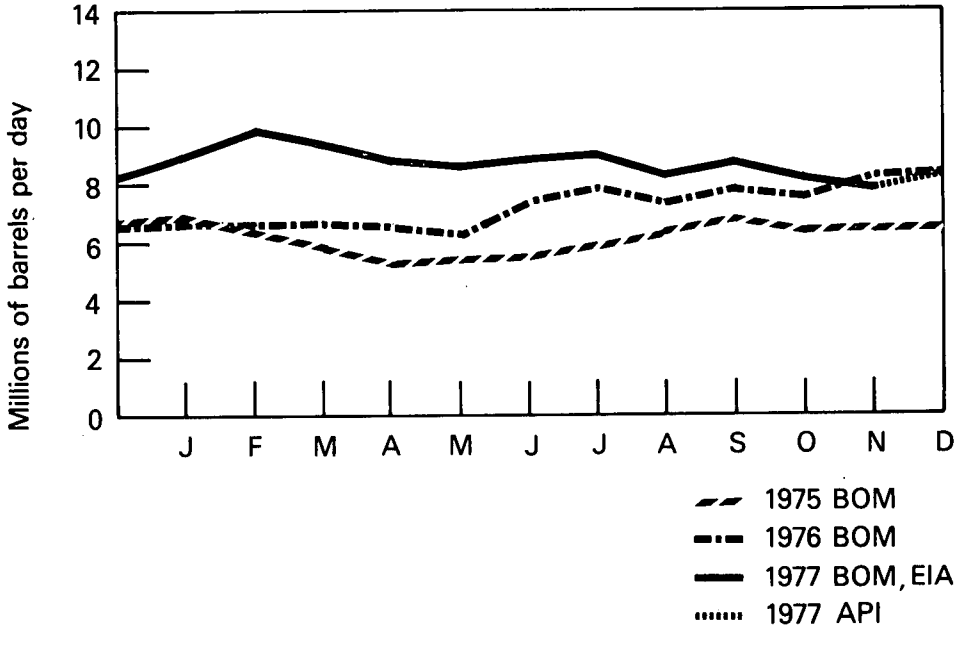
Total Refined Product Domestic Demand



Refined Product Imports



Total Petroleum Imports



Direct and Indirect* U.S. Petroleum Imports from OPEC Countries

	Algeria	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	Other OPEC**	Total OPEC	Arab Members of OPEC
						Thousands of barrels per day					
1973											
Direct	134.2	212.7	222.7	164.3	458.9	487.3	70.6	1,124.7	106.5	2,981.9	914.4
Indirect	17.0	25.0	211.0	144.0	149.0	253.0	13.0	509.0	88.0	1,409.0	463.0
TOTAL	**151.2**	**237.7**	**433.7**	**308.3**	**607.9**	**740.3**	**83.6**	**1,633.7**	**194.5**	**4,390.9**	**1,377.4**
1974											
Direct	190.2	300.1	468.8	4.4	697.6	460.6	70.5	979.3	88.3	3,259.8	748.5
Indirect	16.9	40.8	262.2	35.9	214.6	214.6	17.3	478.5	128.7	1,409.5	357.9
TOTAL	**207.1**	**310.9**	**731.0**	**40.3**	**912.2**	**675.2**	**87.8**	**1,457.8**	**217.0**	**4,669.3**	**1,106.4**
1975											
Direct	281.5	388.4	280.4	232.0	761.5	715.0	116.7	697.6	116.1	3,589.2	1,381.3
Indirect	6.7	49.3	244.4	97.3	76.3	176.6	37.5	332.5	143.2	1,163.8	408.8
TOTAL	**288.2**	**437.7**	**524.8**	**329.3**	**837.8**	**891.6**	**154.2**	**1,030.1**	**259.3**	**4,753.0**	**1,790.1**
1976											
Direct											
January	345.5	478.0	387.5	451.3	781.7	1,111.9	118.8	533.7	86.3	4,294.7	2,045.7
February	357.4	465.3	241.2	328.4	830.9	1,080.9	118.5	838.6	102.8	4,364.0	1,925.3
March	347.2	552.0	292.5	372.2	896.8	1,145.0	159.4	468.1	111.8	4,345.0	2,058.5
April	446.5	467.6	323.3	356.2	997.0	1,027.5	195.5	496.8	81.6	4,392.0	2,036.2
May	410.6	485.5	183.7	362.0	855.1	1,141.5	214.5	487.7	135.9	4,276.5	2,138.8
June	501.2	603.6	323.2	487.8	1,127.6	1,205.0	290.1	668.0	70.5	5,277.0	2,486.5
July	451.0	581.0	374.3	487.1	1,136.7	1,327.7	305.2	808.0	208.8	5,679.8	2,711.4
August	510.0	554.5	294.2	463.5	1,029.4	1,317.6	228.1	704.0	133.6	5,234.9	2,597.4
September	435.3	570.2	274.6	491.0	1,173.0	1,288.1	335.1	932.4	198.7	5,698.4	2,748.2
October	357.2	487.4	284.2	456.2	1,097.5	1,366.2	304.4	772.8	232.7	5,358.5	2,578.8
November	502.0	647.1	316.8	533.9	1,173.8	1,316.1	341.1	810.8	170.7	5,812.3	2,768.4
December	379.9	556.4	289.5	637.2	1,193.6	1,404.0	448.0	868.4	194.8	5,971.8	2,956.6
Total Direct	428.3	537.4	298.5	453.3	1,025.2	1,229.8	255.2	699.2	134.0	5,060.9	2,421.0
Indirect	10.0	32.0	248.0	76.0	94.0	136.0	68.0	273.0	82.0	1,019.0	352.0
TOTAL	**438.3**	**569.4**	**546.5**	**529.3**	**1,119.2**	**1,365.8**	**323.2**	**972.2**	**216.0**	**6,079.9**	**2,773.0**
1977											
Direct											
January	493.0	619.2	396.8	627.0	1,285.8	1,328.0	319.5	841.8	324.2	6,236.0	3,000.0
February	666.1	570.3	412.4	638.0	1,265.1	1,441.8	316.7	920.6	241.0	6,472.0	3,141.1
March	459.8	567.0	735.0	701.2	1,300.0	1,371.6	369.5	664.3	184.3	6,352.7	3,022.1
April	660.7	523.9	517.2	782.9	1,242.4	1,437.4	323.5	663.3	250.5	6,401.8	3,363.2
May	392.8	512.7	539.3	784.1	1,072.3	1,724.1	237.1	534.4	435.9	6,232.7	3,451.3
June	436.6	671.6	553.0	827.1	1,190.8	1,432.7	438.6	668.7	343.5	6,562.6	3,374.1
July	573.9	519.0	857.3	763.4	1,194.7	1,369.8	286.1	625.8	377.8	6,567.8	3,232.1
Total Direct	523.9	568.8	575.6	732.6	1,221.0	1,443.7	326.9	700.0	309.2	6,401.7	3,226.1
Indirect	18.2	71.1	279.5	128.6	98.9	190.0	101.3	234.0	97.2	1,218.8	516.3
TOTAL (7 months)	**542.1**	**639.9**	**855.1**	**861.2**	**1,319.9**	**1,633.7**	**428.2**	**934.0**	**406.4**	**7,620.5**	**3,742.4**

*Indirect imports refer to U.S. imports of petroleum products, primarily from Caribbean and European areas, that have been refined from crude oil produced in other areas. U.S. imports of these products have been prorated to each OPEC country of origin based on the share of total crude oil supply in the Caribbean and European areas which was imported from each OPEC country.
**Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.
Sources: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" and "PAD Districts Supply/Demand, Monthly" through April 1977; EIA *Energy Data Reports*, "PAD Districts Supply/Demand, Monthly" for May 1977 forward; and EIA estimates.

U.S. Petroleum Imports from Non-OPEC Sources

	Bahamas	Canada	Netherlands Antilles	Puerto Rico	Trinidad and Tobago	Virgin Islands	Other	Total
			Thousands of barrels per day					
1973	**170.8**	**1,312.9**	**573.6**	**99.3**	**250.6**	**329.2**	**537.8**	**3,274.2**
1974	**159.3**	**1,067.6**	**509.6**	**90.4**	**241.2**	**391.7**	**392.6**	**2,852.4**
1975								
January	216.1	949.1	549.4	99.0	232.9	563.5	319.5	2,929.5
February	213.9	854.5	315.2	148.8	255.1	490.3	315.7	2,593.5
March	162.6	746.9	279.5	139.0	185.7	506.4	295.7	2,315.8
April	168.9	704.3	237.7	73.1	171.8	353.3	273.9	1,983.0
May	122.3	574.2	242.9	77.9	237.1	413.4	304.2	1,971.7
June	130.0	872.7	261.6	75.1	204.5	352.6	229.6	2,126.1
July	178.3	889.1	368.3	104.9	281.1	320.8	358.7	2,501.2
August	135.8	887.9	333.1	72.9	289.4	399.1	364.9	2,483.1
September	143.6	918.0	428.6	66.9	283.2	389.7	614.3	2,844.3
October	135.8	946.3	357.8	105.8	222.2	336.3	557.6	2,661.8
November	88.8	893.1	280.0	60.6	265.5	353.0	518.8	2,459.8
December	119.5	907.3	238.0	50.9	262.5	405.9	375.0	2,359.1
TOTAL	**152.0**	**845.2**	**323.6**	**89.7**	**240.9**	**406.5**	**377.5**	**2,435.4**
1976								
January	134.1	681.7	291.7	71.0	343.2	468.4	380.2	2,370.3
February	127.6	644.9	262.4	122.2	326.3	462.3	321.7	2,267.4
March	90.4	590.2	328.7	114.0	315.6	424.5	475.5	2,338.9
April	131.9	578.4	274.9	68.5	291.9	341.2	516.5	2,203.3
May	95.2	614.9	214.1	70.6	257.5	388.5	405.7	2,046.5
June	104.2	653.3	190.4	54.3	319.3	427.5	453.0	2,202.0
July	112.8	581.7	259.1	77.9	279.2	386.5	513.4	2,210.6
August	98.5	580.9	268.7	81.5	163.6	437.2	516.6	2,147.0
September	143.1	564.8	273.3	104.1	182.6	408.5	537.9	2,214.3
October	78.3	562.0	239.0	92.2	215.2	460.5	502.0	2,149.2
November	140.4	561.8	267.6	104.1	254.3	454.4	465.3	2,247.9
December	141.5	578.3	400.3	98.5	324.2	408.4	470.5	2,421.3
TOTAL	**116.5**	**599.3**	**274.6**	**88.1**	**272.6**	**422.3**	**460.6**	**2,234.0**
1977								
January	170.0	505.9	304.1	82.5	316.2	619.6	647.7	2,646.0
February	289.5	605.1	406.6	86.3	406.3	548.8	1,115.9	3,458.5
March	200.4	561.7	257.3	97.4	286.5	505.5	981.9	2,890.7
April	130.7	506.1	110.1	85.3	210.5	409.0	817.6	2,269.3
May	138.5	437.8	153.7	105.8	308.1	376.2	821.2	2,341.3
June	137.7	493.0	196.2	89.4	271.1	322.0	796.7	2,306.1
July	169.8	482.9	239.0	129.7	275.8	477.7	698.8	2,473.7
TOTAL (7 months)	**175.5**	**512.0**	**236.6**	**96.9**	**295.3**	**465.3**	**836.3**	**2,617.9**

Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" and "PAD Districts Supply/Demand, Monthly," through April 1977; EIA *Energy Data Reports*, "PAD Districts Supply/Demand Monthly" for May 1977 forward.

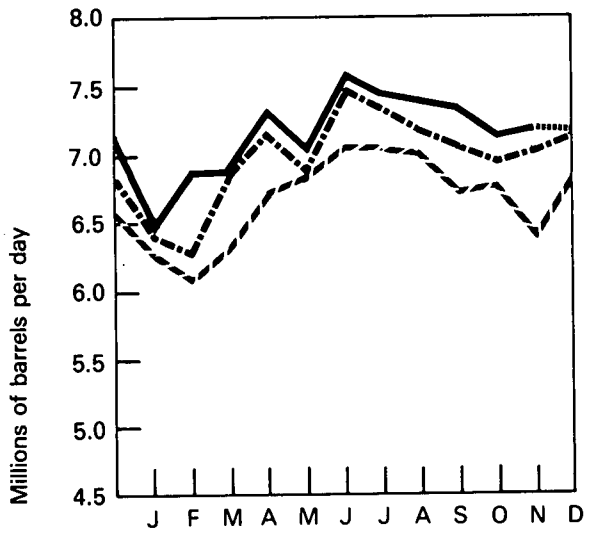
Motor Gasoline

		Domestic Demand	Production*	Imports	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	**AVERAGE**	**6,376**	**6,281**	**68**	****212,770**
1973	**AVERAGE**	**6,674**	**6,527**	**134**	****209,395**
1974	**AVERAGE**	**6,537**	**6,358**	**204**	****218,346**
1975	January	6,206	6,509	262	***242,285
	February	6,096	6,276	171	251,915
	March	6,326	6,070	150	248,685
	April	6,718	6,046	133	232,556
	May	6,871	6,126	142	213,947
	June	7,076	6,669	177	207,114
	July	7,041	7,003	209	212,454
	August	7,008	6,872	232	215,480
	September	6,729	6,823	269	226,447
	October	6,778	6,410	207	221,493
	November	6,390	6,602	139	232,091
	December	6,808	6,786	119	234,925
	AVERAGE	**6,675**	**6,518**	**184**	
1976	January	6,398	6,483	92	240,464
	February	6,263	6,472	84	248,854
	March	6,890	6,455	123	239,049
	April	7,159	6,562	99	223,965
	May	6,853	6,775	112	225,037
	June	7,482	7,303	188	225,365
	July	7,315	7,174	190	226,922
	August	7,168	7,149	141	230,578
	September	7,079	6,878	171	229,751
	October	6,929	6,678	138	226,300
	November	7,038	6,938	146	227,742
	December	7,138	7,176	84	231,387
	AVERAGE	**6,978**	**6,838**	**131**	
1977	January	6,466	6,934	222	252,608
	February	6,897	6,817	184	255,519
	March	6,899	6,864	245	262,118
	April	7,348	6,968	269	258,831
	May	7,034	6,950	202	262,498
	June	7,595	7,145	246	256,389
	July	R7,441	7,248	248	R258,152
	August	7,407	7,187	181	256,829
	September	7,315	7,062	221	255,848
	October	7,140	6,931	179	254,885
	November	R7,195	R7,123	R179	R258,039
	December	7,192	7,111	142	254,867
	AVERAGE	**7,161**	**7,030**	**210**	

*See Definitions.
**Total as of December 31.
***Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.
R=Revised data.
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through July 1977 and "Monthly Petroleum Statistics Report" for August through November 1977; December 1977 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Motor Gasoline

Domestic Demand



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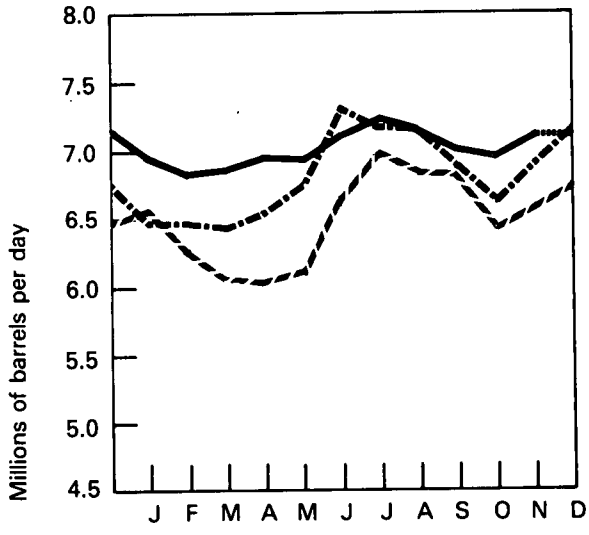

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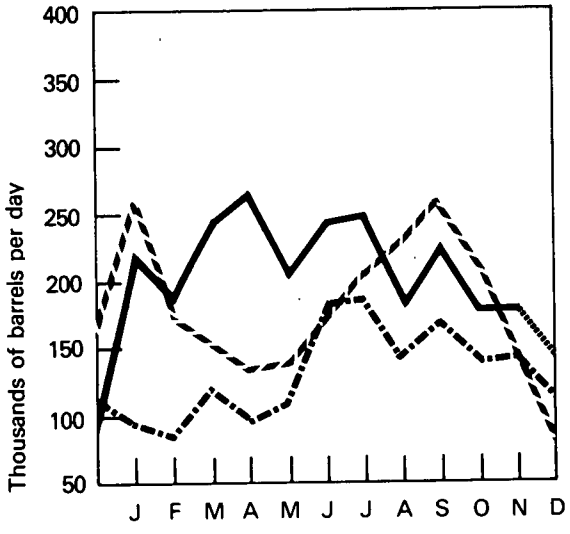
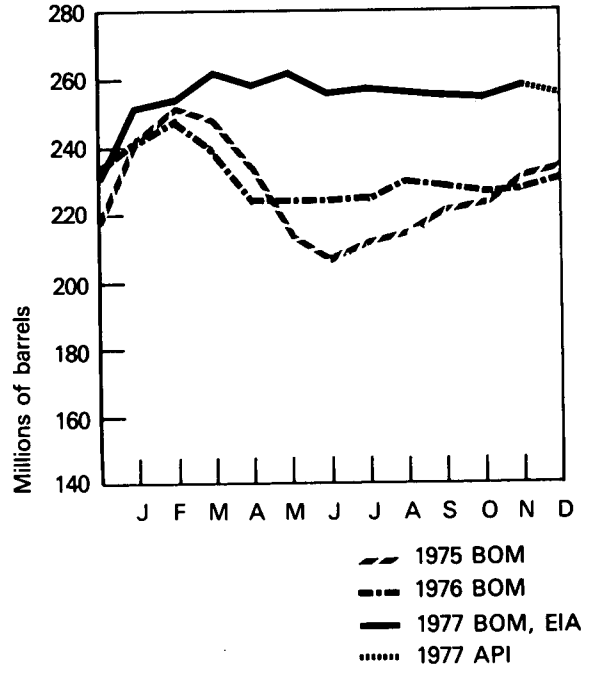


Stocks



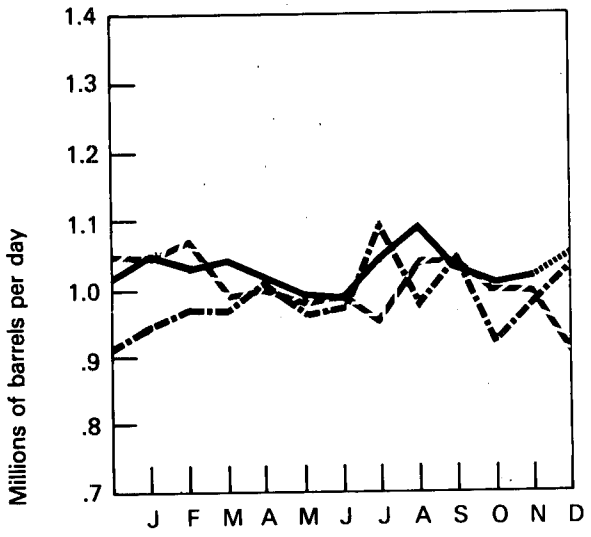
Jet Fuel

		Domestic Demand	Production	Imports	Stocks
		Thousands of barrels per day			Thousands of barrels
1972	**AVERAGE**	**1,045**	**847**	**194**	***25,493**
1973	**AVERAGE**	**1,059**	**859**	**212**	***28,544**
1974	**AVERAGE**	**993**	**836**	**163**	***29,435**
1975	January	1,041	831	229	**30,321
	February	1,075	835	200	29,133
	March	982	896	130	30,456
	April	1,006	864	137	30,263
	May	977	861	133	30,719
	June	989	839	106	29,337
	July	954	883	88	29,798
	August	1,046	958	132	31,103
	September	1,040	907	140	31,291
	October	997	864	106	30,410
	November	999	864	89	28,977
	December	911	849	109	30,380
	AVERAGE	**1,001**	**871**	**133**	
1976	January	948	889	69	30,618
	February	965	918	71	31,180
	March	965	927	86	32,619
	April	1,010	927	108	33,332
	May	960	899	106	34,664
	June	972	879	68	33,879
	July	1,099	933	130	32,732
	August	965	942	38	33,121
	September	1,048	990	63	33,204
	October	911	890	50	34,032
	November	978	920	56	33,859
	December	1,027	900	72	32,085
	AVERAGE	**987**	**918**	**76**	
1977	January	1,054	917	77	30,170
	February	1,036	974	74	30,455
	March	1,041	954	98	30,739
	April	1,019	991	86	32,355
	May	993	979	57	33,644
	June	989	996	30	34,707
	July	R1,043	R969	R85	35,048
	August	1,093	1,009	52	33,986
	September	1,027	1,004	30	34,161
	October	R1,010	973	R61	34,878
	November	R1,018	950	R90	R35,483
	December	1,056	960	47	33,942
	AVERAGE	**1,032**	**973**	**66**	

*Total as of December 31.
**Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.
R=Revised data.
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through July 1977 and "Monthly Petroleum Statistics Report" for August through November 1977; December 1977 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Jet Fuel

Domestic Demand



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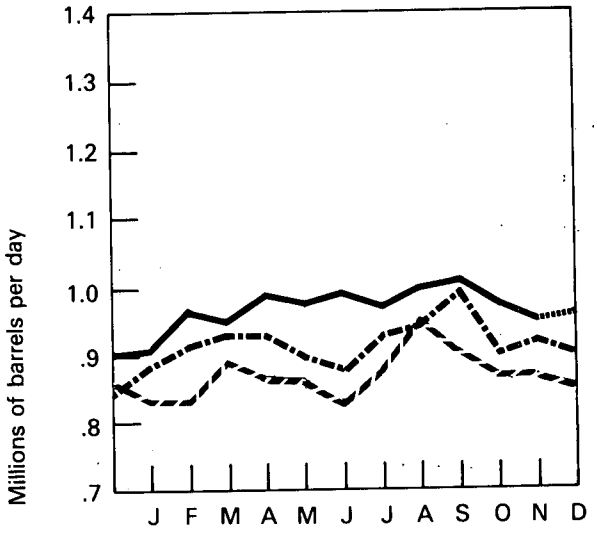

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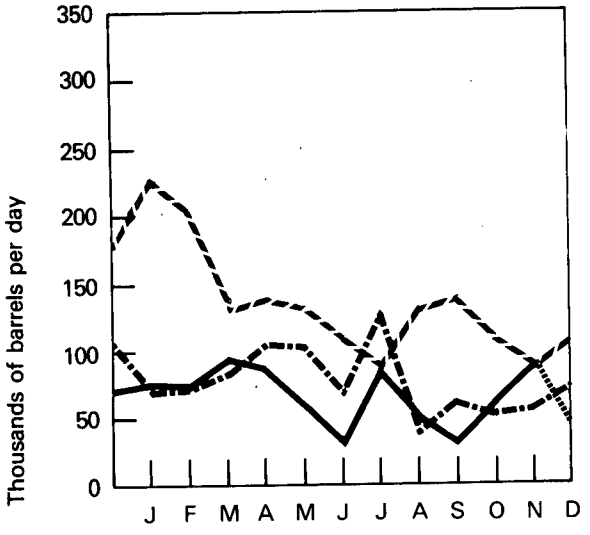
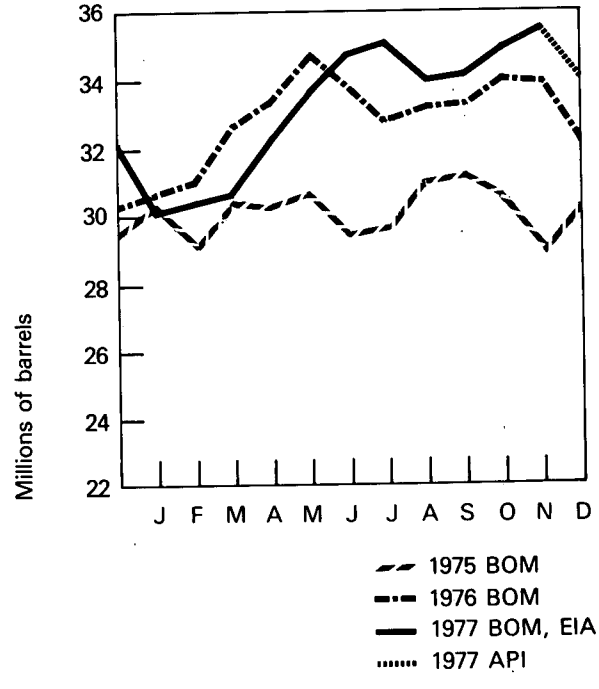


Stocks



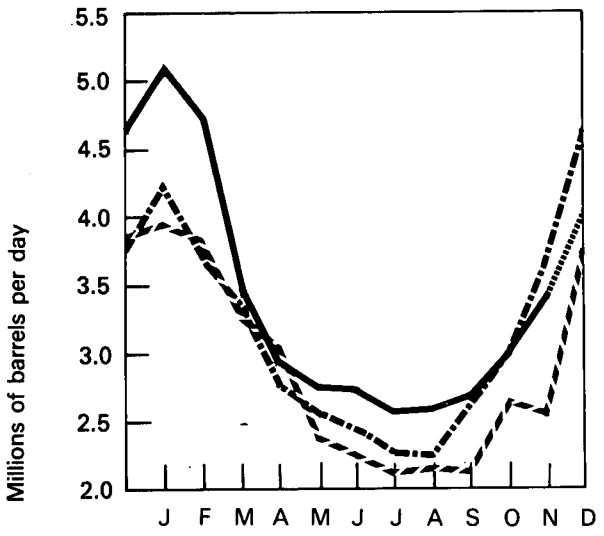
Distillate Fuel Oil

		Domestic Demand	Production*	Imports	Stocks*
		Thousands of barrels per day			Thousands of barrels
1972	**AVERAGE**	**2,913**	**2,630**	**182**	****154,284**
1973	**AVERAGE**	**3,092**	**2,820**	**392**	****196,421**
1974	**AVERAGE**	**2,948**	**2,668**	**289**	****200,029**
1975	January	3,963	2,852	334	***199,715
	February	3,803	2,679	302	176,696
	March	3,292	2,532	255	161,111
	April	3,094	2,487	110	146,214
	May	2,382	2,431	136	152,027
	June	2,267	2,574	69	163,306
	July	2,109	2,590	104	181,472
	August	2,173	2,592	92	197,323
	September	2,163	2,812	130	220,732
	October	2,677	2,745	104	226,113
	November	2,544	2,767	96	235,749
	December	3,792	2,783	138	208,787
	AVERAGE	**2,851**	**2,653**	**155**	
1976	January	4,298	2,734	164	165,428
	February	3,687	2,961	207	150,439
	March	3,336	2,793	151	138,306
	April	2,788	2,655	96	137,249
	May	2,519	2,738	97	147,057
	June	2,436	2,885	151	165,064
	July	2,255	2,959	126	190,861
	August	2,237	2,982	131	217,930
	September	2,618	2,947	147	232,230
	October	3,029	2,995	141	235,599
	November	3,714	3,180	135	223,648
	December	4,650	3,255	179	185,948
	AVERAGE	**3,130**	**2,924**	**143**	
1977	January	5,111	3,375	350	142,989
	February	4,714	3,702	664	133,261
	March	3,421	3,179	519	141,882
	April	2,942	3,001	153	148,246
	May	2,777	3,124	99	162,123
	June	2,776	3,198	135	178,842
	July	R2,545	R3,192	R192	R204,899
	August	2,561	3,210	159	229,794
	September	2,706	3,311	161	252,775
	October	R3,009	3,328	R155	267,440
	November	R3,416	R3,336	R182	R270,481
	December	4,025	3,274	159	244,637
	AVERAGE	**3,326**	**3,266**	**241**	

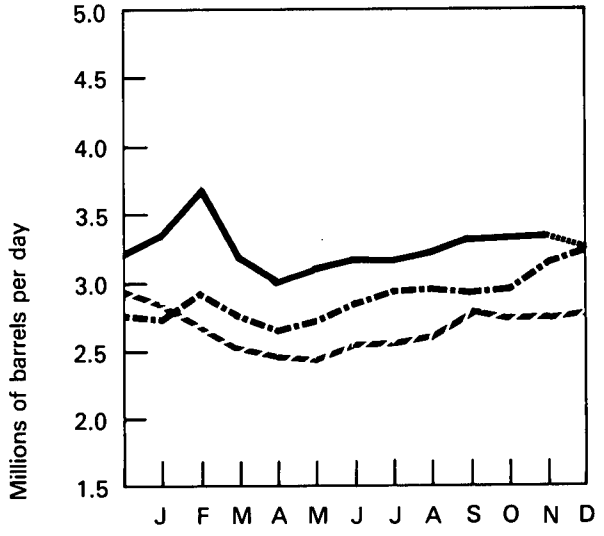
*See Definitions.
**Total as of December 31.
***Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.
R=Revised data.
Sources: Bureau of Mines (BOM) *Mineral Industry Surveys*, "Petroleum Statement, Annual" and "Petroleum Statement, Monthly" through April 1977; Energy Information Administration (EIA) *Energy Data Reports*, "Petroleum Statement, Monthly" for May through July 1977 and "Monthly Petroleum Statistics Report" for August through November 1977; December 1977 data are EIA estimates based on data from the American Petroleum Institute (API) "Weekly Statistical Bulletin."

Distillate Fuel Oil

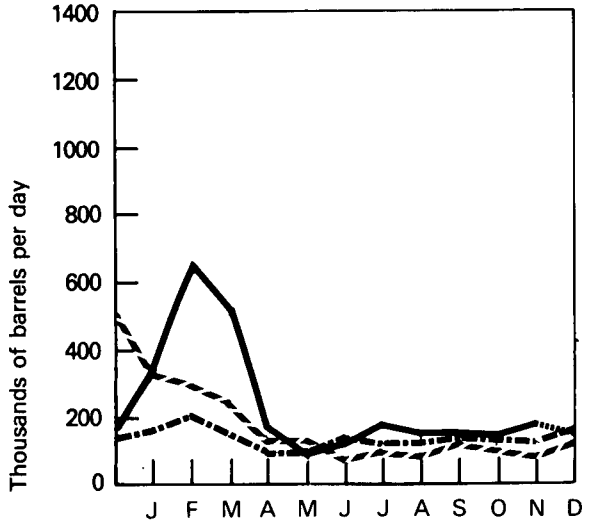
Domestic Demand



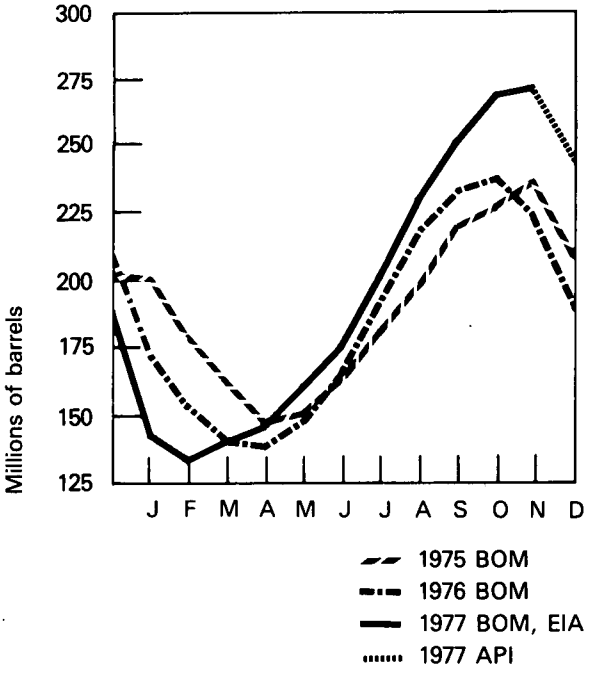
Production



Imports



Stocks



Residual Fuel Oil

		Domestic Demand	Production	Imports	Stocks
		Thousands of barrels per day			Thousands of barrels
1972	**AVERAGE**	**2,529**	**799**	**1,742**	***55,216**
1973	**AVERAGE**	**2,822**	**971**	**1,853**	***53,480**
1974	**AVERAGE**	**2,639**	**1,070**	**1,587**	***59,694**
1975	January	3,253	1,415	1,657	**69,233
	February	2,849	1,354	1,402	66,495
	March	2,669	1,299	1,293	64,148
	April	2,232	1,245	1,054	66,340
	May	2,087	1,151	1,160	73,498
	June	2,177	1,152	902	69,660
	July	2,220	1,155	1,125	71,526
	August	2,157	1,146	1,021	71,857
	September	2,328	1,183	1,311	76,938
	October	2,268	1,165	1,251	81,858
	November	2,405	1,214	1,225	83,131
	December	2,912	1,354	1,283	74,126
	AVERAGE	**2,462**	**1,235**	**1,223**	
1976	January	3,069	1,415	1,406	66,592
	February	3,006	1,394	1,703	68,859
	March	2,779	1,311	1,342	65,132
	April	2,495	1,283	1,258	66,458
	May	2,439	1,257	1,134	65,147
	June	2,520	1,241	1,240	64,272
	July	2,555	1,266	1,462	69,812
	August	2,678	1,321	1,307	68,490
	September	2,517	1,330	1,442	76,436
	October	2,511	1,351	1,234	79,117
	November	3,253	1,581	1,474	73,284
	December	3,608	1,772	1,791	72,344
	AVERAGE	**2,786**	**1,377**	**1,398**	
1977	January	3,741	1,889	1,596	64,749
	February	3,662	1,951	1,943	71,414
	March	3,150	1,715	1,417	71,186
	April	2,855	1,687	1,125	70,165
	May	2,719	1,671	1,145	73,376
	June	2,954	1,714	1,181	71,924
	July	R2,805	R1,729	1,271	R77,770
	August	3,006	1,599	1,439	78,605
	September	2,897	1,742	1,455	87,547
	October	R2,662	1,726	R1,221	95,801
	November	R2,788	R1,696	R1,088	R95,098
	December	3,340	1,781	1,361	90,233
	AVERAGE	**3,045**	**1,740**	**1,350**	

*Total as of December 31.
**Bureau of Mines' stock coverage was expanded at the end of 1974 to include an additional 100 bulk terminal operators; the new coverage begins here with January 1975.
R=Revised data.
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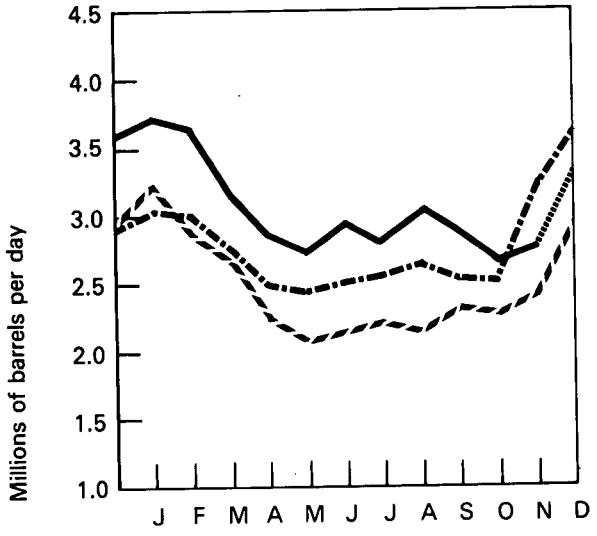
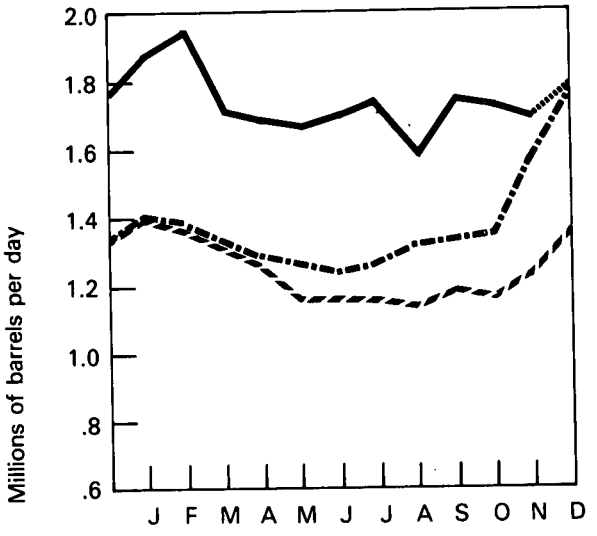
Residual Fuel Oil

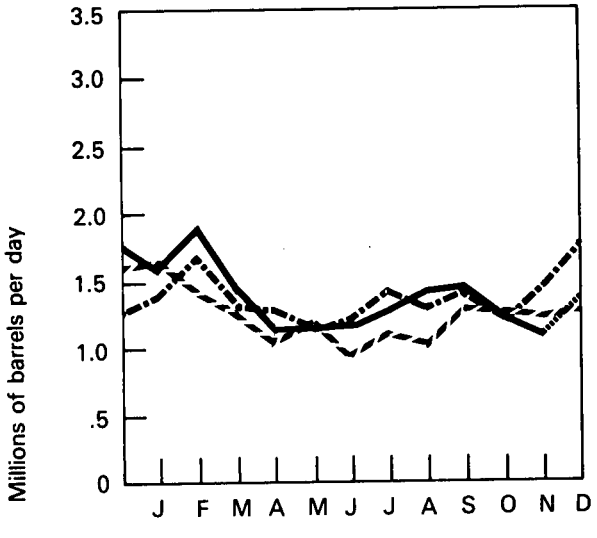
Domestic Demand



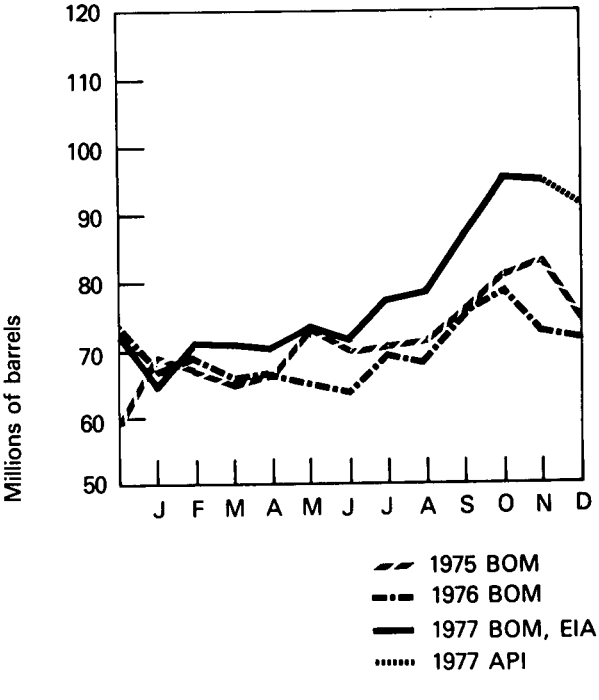
Production



Imports



Stocks



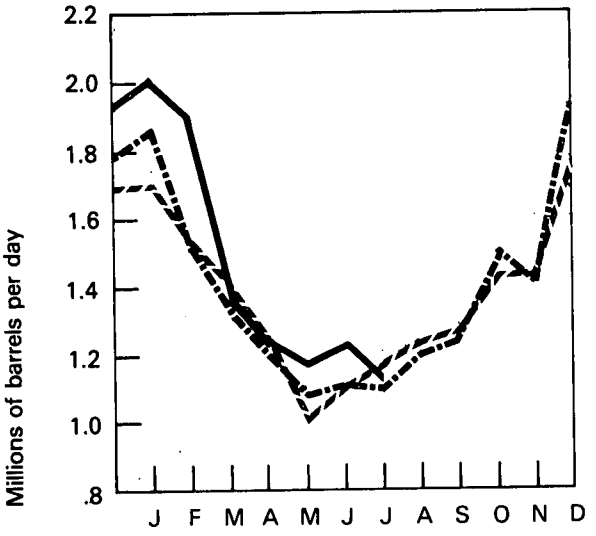
Natural Gas Liquids

		Domestic Demand*	Production*		Used at Refineries*	Imports	Stocks*
			At processing plants	At refineries			
		Thousands of barrels per day					Thousands of barrels
1972	**AVERAGE**	**1,420**	**1,744**	**365**	**826**	**174**	****92,024**
1973	**AVERAGE**	**1,454**	**1,738**	**375**	**815**	**239**	****106,659**
1974	**AVERAGE**	**1,422**	**1,688**	**338**	**746**	**212**	****120,175**
1975	January	1,708	1,630	307	756	257	110,697
	February	1,512	1,646	296	734	181	106,205
	March	1,404	1,658	280	731	178	104,365
	April	1,242	1,635	273	667	176	105,521
	May	1,002	1,607	299	628	97	119,052
	June	998	1,646	323	659	166	132,553
	July	1,191	1,621	336	701	173	139,095
	August	1,227	1,650	357	690	163	145,920
	September	1,278	1,577	326	703	209	148,948
	October	1,429	1,643	310	729	198	147,793
	November	1,444	1,635	309	759	196	145,052
	December	1,787	1,646	310	768	232	132,653
	AVERAGE	**1,352**	**1,633**	**311**	**710**	**185**	
1976	January	1,885	1,585	305	728	240	116,707
	February	1,518	1,640	316	793	270	113,373
	March	1,303	1,615	333	674	194	117,486
	April	1,201	1,616	349	716	171	123,100
	May	1,074	1,588	376	695	144	131,421
	June	1,110	1,606	356	718	163	139,291
	July	1,103	1,592	354	710	147	147,034
	August	1,213	1,596	362	695	160	152,704
	September	1,243	1,602	352	713	152	156,436
	October	1,497	1,601	309	709	203	152,666
	November	1,413	1,621	331	726	244	143,422
	December	1,921	1,589	341	853	269	124,518
	AVERAGE	**1,407**	**1,604**	**340**	**725**	**196**	
1977	January	2,018	1,549	323	730	331	106,524
	February	1,887	1,589	336	693	238	94,128
	March	1,354	1,687	331	688	239	100,025
	April	1,228	1,664	337	672	198	108,235
	May	1,167	1,620	397	614	165	120,018
	June	1,235	1,616	364	622	203	129,315
	July	1,133	1,609	381	594	157	141,631
	AVERAGE (7 months)	**1,427**	**1,620**	**353**	**659**	**219**	

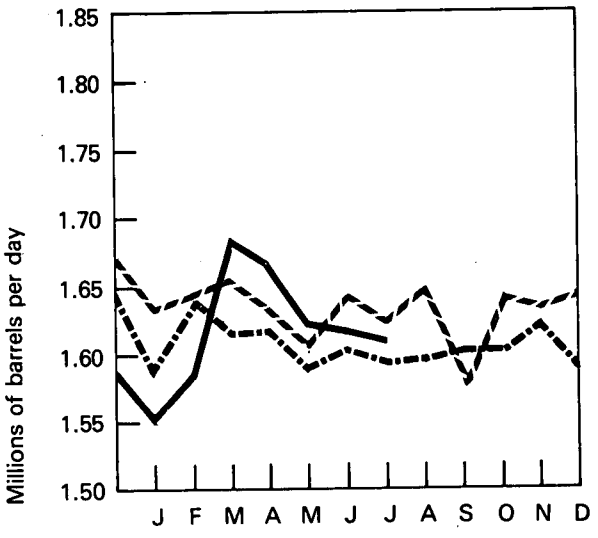
*See Explanatory Note 4.
**Total as of December 31.
Source: Bureau of Mines *Mineral Industry Surveys*, "Petroleum Statement, Monthly" through April 1977; and EIA *Energy Data Reports*, "Petroleum Statement, Monthly" for May 1977 forward.

Natural Gas Liquids

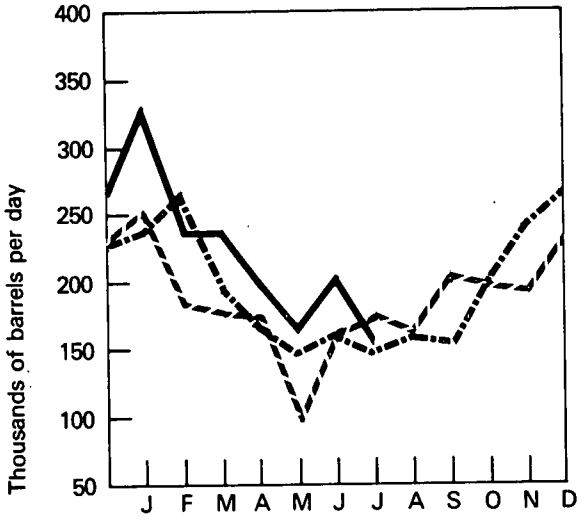
Domestic Demand



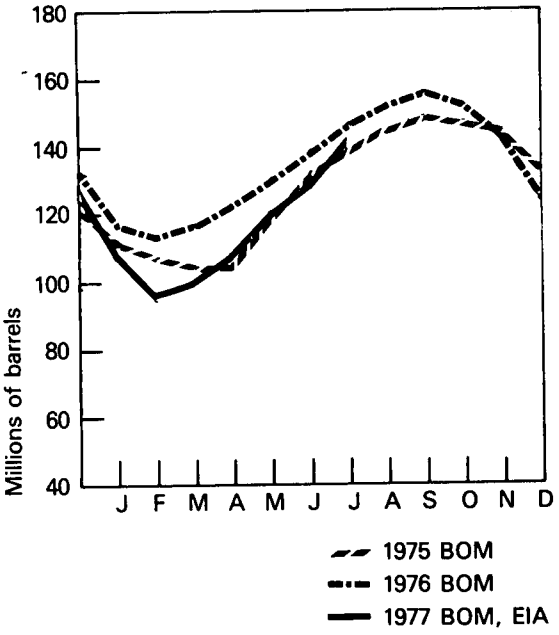
Production at Processing Plants



Imports



Stocks



U.S. Petroleum Supply and Demand

	1976 Actual				
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year
	Thousands of barrels per day				
Supply					
Crude oil and lease condensate production	8,194	8,131	8,120	8,033	8,119
Natural gas plant liquids production	1,612	1,604	1,597	1,604	1,604
Other hydrocarbon supply	37	38	37	40	38
Crude oil imports	4,520	5,023	5,740	5,856	5,287
Refined products imports*	2,140	1,771	1,987	2,130	2,008
Total new supply	16,503	16,567	17,481	17,663	17,056
Processing gain	485	495	469	460	478
Stock change–all oils	-797	+363	+1,065	-866	-58
Total net supply	17,785	16,699	16,885	18,989	17,592
Unaccounted for crude oil**	+204	+8	+42	+101	+89
Demand					
Crude oil and refined products exports	192	204	220	274	223
Crude oil losses	14	14	15	15	14
Domestic demand for refined products***	17,783	16,489	16,692	18,801	17,444
Total demand	17,989	16,707	16,927	19,090	17,681

	1977 Actual			Forecast†	
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Year††
	Thousands of barrels per day				
Supply					
Crude oil and lease condensate production	7,956	7,995	8,269	8,500	8,182
Natural gas plant liquids production	1,609	1,605	1,641	1,610	1,616
Other hydrocarbon supply	44	55	56	52	52
Crude oil imports	6,520	6,849	6,502	6,145	6,503
Refined products imports*	2,813	1,795	1,993	1,811	2,100
Total new supply	18,942	18,299	18,461	18,118	18,452
Processing gain	520	473	532	510	509
Stock change–all oils	-278	+1,165	+1,125	-400	+405
Total net supply	19,740	17,607	17,868	19,028	18,556
Unaccounted for crude oil**	+114	+206	+48	0	+92
Demand					
Crude oil and refined products exports	210	256	198	200	216
Crude oil losses	15	16	13	13	14
Domestic demand for refined products***	19,629	17,541	17,705	18,815	18,418
Total demand	19,854	17,813	17,916	19,028	18,648

*Includes plant condensate and unfinished oils.
**Balancing item resulting from statistical inconsistencies.
***Includes international bunkers.
†See Explanatory Note 5 for discussion of basic assumptions for forecast.
††Calculated using actual 1st, 2nd, and 3rd Quarter data and EIA forecast for remainder of year.
Note: 4th Quarter and Year 1977 data have been revised.
Sources: 1976–Bureau of Mines (BOM) *Mineral Industry Surveys*, "PAD Districts Supply/Demand;" 1st Quarter 1977–BOM *Mineral Industry Surveys*, "Petroleum Statement, Monthly;" 2nd and 3rd Quarters 1977–BOM *Mineral Industry Surveys*, "Petroleum Statement, Monthly," EIA "Monthly Petroleum Statistics Report," and EIA estimates; 4th Quarter 1977–EIA forecast.

Strategic Petroleum Reserve

		Crude Oil Deliveries	Cumulative Deliveries	Average Delivered Price	Cumulative Average Delivered Price
		Barrels		Dollars per barrel	
1977	July	414,172	414,172	13.565	13.565
	August	0	414,172	–	–
	September	674,961	1,089,133	13.59	13.58
	October	1,539,263	2,628,396	14.22	13.95
	November	2,434,463	5,062,859	14.50	14.21
	December	2,455,466	7,518,325	14.58	14.33

Source: U.S. Department of Energy, Strategic Petroleum Reserve Office.

Natural Gas

Marketed production of natural gas in December 1977 was estimated to be 2.5 percent below production in December 1976. Estimated marketed production in 1977 was 0.1 percent above the 1976 production level.

Imports of natural gas in December were estimated at 6.0 percent above December 1976 imports. Estimated imports for the year were 4.0 percent above 1976 imports.

Domestic consumption of natural gas in December was estimated to be 6.4 percent less than the December 1976 level. Consumption in 1977 was estimated to be 3.4 percent below 1976 consumption.

Domestic producer sales to major interstate pipeline companies were down 1.1 percent in October and down 3.0 percent in the first 10 months of 1977 compared with the same periods in 1976.

At the end of December 1977, 2.5 trillion cubic feet of working gas* were in underground natural gas storage reservoirs, 27.9 percent above the volume in storage at the end of 1976. Total gas in underground storage, including base gas, was 5.8 trillion cubic feet, 11.8 percent above the December 31, 1976, level. Net withdrawals of natural gas from underground storage in December were 376 billion cubic feet, 22.0 percent below net withdrawals in December 1976.

*Gas available for withdrawal.

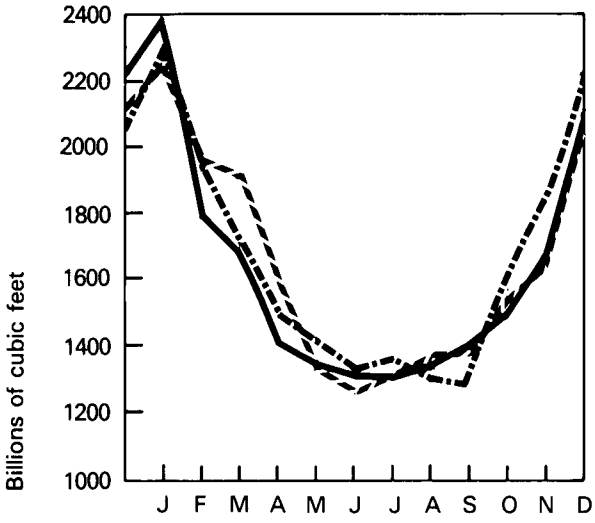
Natural Gas

		Domestic Consumption*	Marketed Production*	Domestic Producer Sales to Major Interstate Pipelines	Imports
			Billion cubic feet		
1972	**TOTAL**	**22,102**	**22,532**	**12,429**	**1,019**
1973	**TOTAL**	**22,049**	**22,648**	**12,067**	**1,033**
1974	**TOTAL**	**21,223**	**21,601**	**11,462**	**959**
1975	January	2,248	1,778	950	81
	February	1,939	1,640	867	75
	March	1,903	1,740	948	83
	April	1,575	1,677	906	82
	May	1,331	1,689	898	80
	June	1,257	1,634	859	76
	July	1,313	1,677	873	80
	August	1,369	1,677	882	75
	September	1,370	1,603	836	74
	October	1,544	1,646	877	80
	November	1,640	1,618	853	81
	December	2,049	1,730	903	86
	TOTAL	**19,538**	**20,109**	**10,652**	**953**
1976	January	R2,291	1,751	894	84
	February	R1,939	1,647	850	78
	March	R1,722	1,714	894	85
	April	R1,509	1,623	849	86
	May	R1,435	1,673	860	82
	June	R1,335	1,640	815	76
	July	R1,373	1,676	822	73
	August	R1,317	1,636	810	77
	September	R1,302	1,565	793	74
	October	R1,623	1,639	840	85
	November	R1,876	1,635	841	81
	December	R2,233	1,753	872	83
	TOTAL	**R19,955**	**19,952**	**10,140**	**964**
1977	January	2,394	1,742	848	85
	February	1,796	1,671	807	85
	March	1,695	1,744	910	106
	April	1,411	1,637	830	82
	May	1,358	1,694	830	84
	June	1,314	1,646	789	76
	July	1,308	1,673	801	74
	August	1,343	R1,639	784	78
	September	R1,403	R1,587	741	R78
	October	R1,495	R1,621	831	84
	November	1,670	**1,610	NA	**83
	December	2,090	**1,710	NA	**88
	TOTAL	**19,277**	**19,974**	**8,171** (10 months)	**1,003**

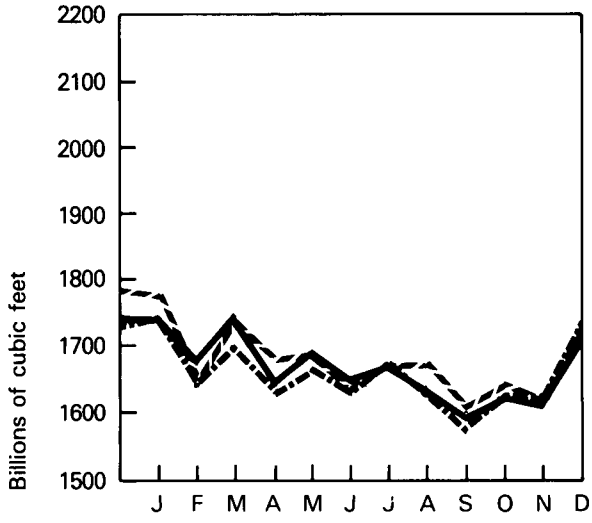
*See Explanatory Note 6.
**Preliminary data.
R=Revised data.
NA=Not available.
Note: All monthly Domestic Consumption data are estimated.
Sources: Domestic Consumption–Bureau of Mines, "Minerals and Materials/A Monthly Survey" (advance estimates are subject to revision prior to publication by BOM); Marketed Production and Imports–Bureau of Mines *Mineral Industry Surveys*, "Natural Gas, Monthly" through June 1977 and EIA *Energy Data Reports*, "Natural Gas, Monthly" for July 1977 forward; Domestic Producer Sales–Federal Power Commission Form 11, "Monthly Statement of Gas Operating Revenues, Sales."

Natural Gas

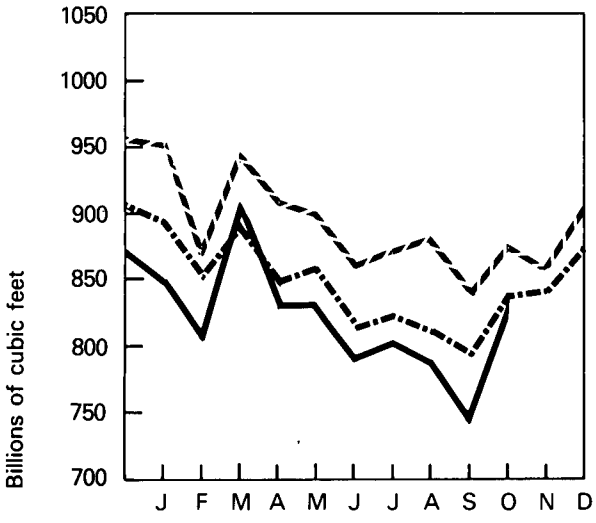
Domestic Consumption



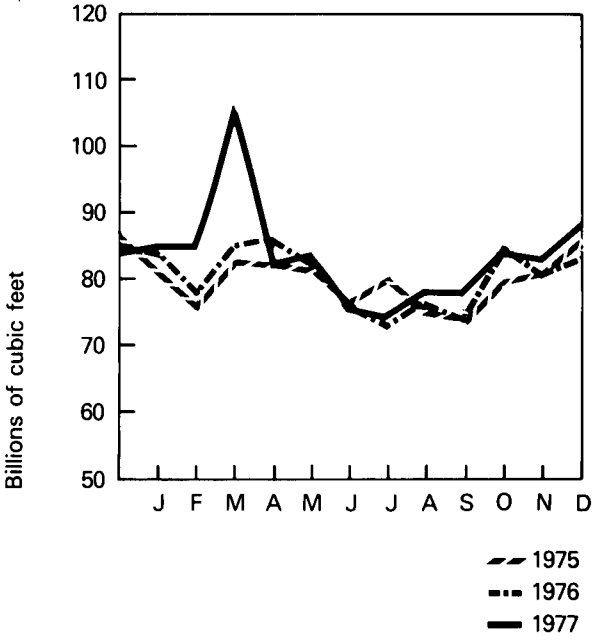
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports

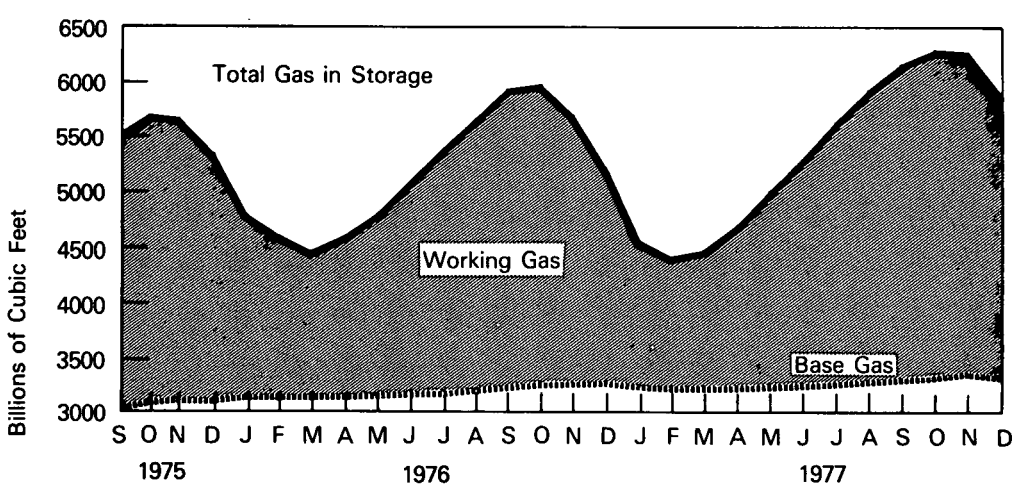


Natural Gas (Continued)

Natural Gas in Underground Storage*

		Total Gas in Storage	Base Gas	Working Gas	Storage Injections	Storage Withdrawals	Net Storage Injections
				Billion cubic feet			
1975	September	5,553	3,085	2,468	220	31	189
	October	5,706	3,107	2,599	190	51	139
	November	5,691	3,150	2,541	98	146	-48
	December	5,358	3,150	2,208	38	371	-333
1976	January	4,817	3,170	1,648	17	526	-509
	February	4,617	3,173	1,445	66	265	-199
	March	4,496	3,170	1,326	79	200	-121
	April	4,607	3,184	1,423	185	75	110
	May	4,827	3,190	1,637	245	24	221
	June	5,116	3,208	1,908	304	27	277
	July	5,412	3,220	2,192	301	6	295
	August	5,698	3,251	2,447	298	17	281
	September	5,946	3,296	2,651	259	22	237
	October	5,966	3,302	2,663	135	116	19
	November	5,714	3,305	2,408	40	291	-251
	December	5,231	3,310	1,922	23	505	-482
1977	January	4,580	3,292	1,287	18	670	-652
	February	4,446	3,283	1,163	101	235	-134
	March	4,501	3,286	1,215	187	132	55
	April	4,713	3,286	1,427	256	43	213
	May	5,024	3,293	1,731	329	17	312
	June	5,330	3,300	2,030	317	12	305
	July	5,665	3,318	2,348	348	15	333
	August	5,945	3,346	2,599	290	21	269
	September	6,188	3,364	2,824	262	2	260
	October	6,302	3,373	2,929	157	44	113
	November	6,224	3,403	2,821	84	160	-76
	December	5,848	3,390	2,458	41	417	-376

Gas in Storage



*See Explanatory Note 7.
Note: Data for all months have been revised and include operator revisions and corrections received as of January 20, 1978.
Sources: Federal Energy Administration Form G318-M-O and Federal Power Commission Form 8 "Underground Gas Storage Report."

Coal

Bituminous coal and lignite production fell from a record monthly output of 65.5 million tons in November 1977 to 32.1 million tons in December. The decline occurred when members of the United Mine Workers of America went on strike on December 6 after their wage agreement expired. Despite the strike, which continued throughout December, coal production in 1977 was 672.0 million tons, only 1.0 percent below the 678.7 million tons produced in 1976. Coal production in Western States increased from 136 million tons in 1976 to an estimated 158 million tons in 1977, while production in States east of the Mississippi fell from 543 million tons to approximately 514 million tons. Coal production from underground mines declined from 295 million tons in 1976 to about 272 million tons in 1977. Surface-mined coal increased from 384 million tons to approximately 400 million tons.

Domestic consumption of bituminous coal and lignite totaled 51.4 million tons in November, up 0.1 million tons from consumption in November 1976. Electric utility coal consumption was 38.1 million tons in November 1977, down slightly from the 38.2 million tons consumed in November 1976. Steel company coke plants, the second largest coal consuming sector, consumed 6.5 million tons, a decrease of 0.3 million tons from the amount consumed in November 1976. Coal consumption in the general industrial sector totaled 5.9 million tons in November 1977, an increase of 0.6 million tons over the amount consumed in the same month a year earlier.

Stocks of bituminous coal and lignite on November 30, 1977, were a record 173.1 million tons (or 101 days' supply at November burn rates), up 37.7 million tons from the level for the same month in 1976. Electric utilities have steadily increased their stockpiles from a 1977 low of 101.1 million tons at the end of February to an alltime high of 147.1 million tons at the end of November. Stocks of coking coal were also at record levels. Stocks at steel company coke plants totaled 15.5 million tons on November 30, 2.9 million tons more than at the end of October and 5.9 million tons more than on November 30, 1976. Coal stocks held by general industry increased from 7.9 million tons on October 31 to 9.7 million tons on November 30. The buildup in stocks was in anticipation of production losses from a prolonged strike.

The United States exported 4.5 million tons of coal in November, down 0.4 million tons from exports in October. Exports for the first 11 months of 1977 were 49.8 million tons, or 9.1 percent below the amount exported during the same period a year earlier and 18.6 percent below the amount for the January-November period of 1975.

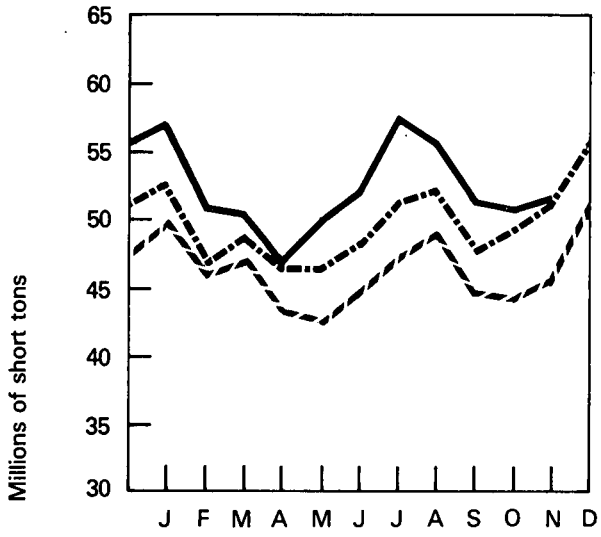
Bituminous and Lignite

		Domestic Consumption*	Production*	Exports	Stocks**
			Thousands of short tons		
1972	**TOTAL**	**516,776**	**595,386**	**55,997**	**117,442**
1973	**TOTAL**	**556,022**	**591,738**	**52,903**	**103,022**
1974	**TOTAL**	**552,709**	**603,406**	**59,926**	**95,528**
1975	January	49,841	55,610	4,254	95,512
	February	45,699	51,135	4,470	97,028
	March	47,202	51,910	5,653	97,832
	April	43,537	56,330	6,159	102,663
	May	42,658	57,045	7,011	109,666
	June	44,777	55,730	6,269	114,857
	July	47,454	45,560	4,691	109,133
	August	49,190	51,160	5,859	108,522
	September	44,032	56,060	4,529	111,922
	October	44,929	60,030	4,647	120,344
	November	45,946	54,655	7,593	125,808
	December	51,036	53,213	4,534	127,115
	TOTAL	**556,301**	**648,438**	**65,669**	
1976	January	52,919	52,568	3,697	119,149
	February	46,800	53,773	3,050	118,970
	March	48,607	60,918	3,979	123,441
	April	46,450	59,145	5,780	128,343
	May	46,506	57,934	5,667	134,621
	June	48,472	59,680	6,569	140,237
	July	51,696	44,318	4,880	129,606
	August	52,069	53,622	4,223	123,662
	September	47,750	60,634	5,614	129,867
	October	49,248	58,899	5,871	133,581
	November	51,320	58,780	5,451	135,402
	December	55,642	58,414	4,625	133,673
	TOTAL	**597,479**	**678,685**	**59,406**	
1977	January	57,032	44,555	2,143	118,080
	February	50,756	50,365	3,079	114,387
	March	50,238	65,020	3,390	122,584
	April	46,888	58,893	5,637	129,830
	May	50,015	60,799	5,673	137,518
	June	52,275	61,078	6,019	144,269
	July	57,288	47,785	5,158	137,463
	August	55,627	55,920	4,279	136,832
	September	51,342	65,505	5,037	144,953
	October	50,936	64,415	4,871	158,164
	November	51,448	65,545	4,489	173,103
	December	NA	32,120	NA	NA
	TOTAL	**573,840** (11 months)	**672,000** (12 months)	**49,775** (11 months)	

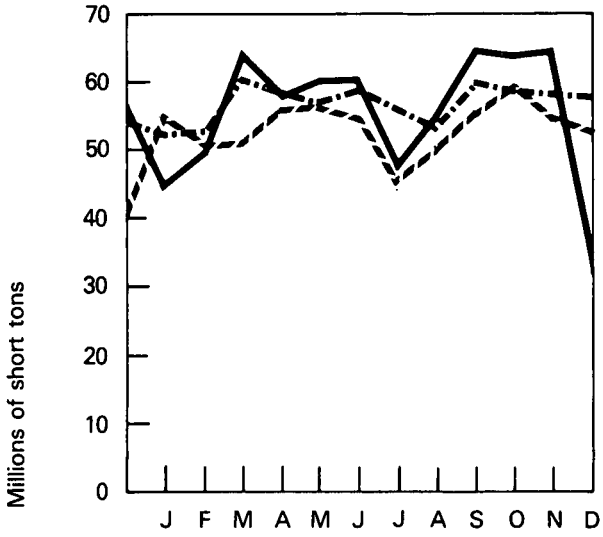
*See Explanatory Note 8.
**Total at the end of year or month.
R=Revised data.
NA=Not available.
Source: Bureau of Mines *Mineral Industry Surveys*, "Weekly Coal Report" through September 1977; and EIA *Energy Data Reports*, "Weekly Coal Report" for October 1977 forward.

Bituminous and Lignite

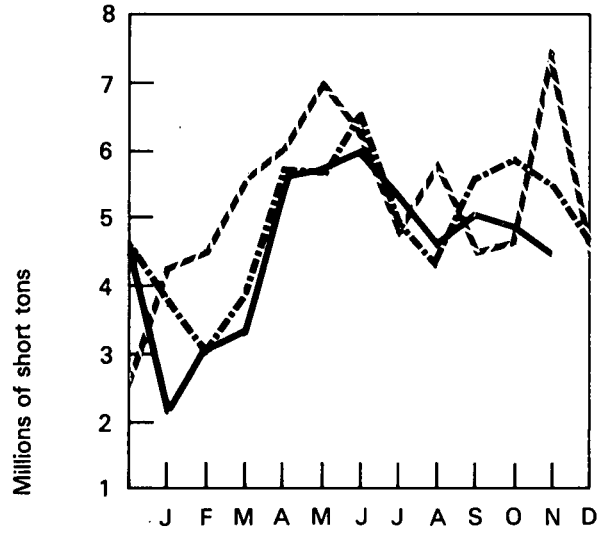
Domestic Consumption



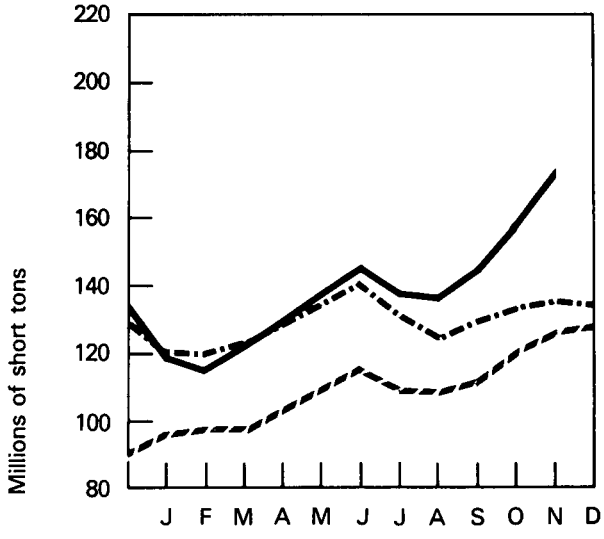
Production



Exports



Stocks

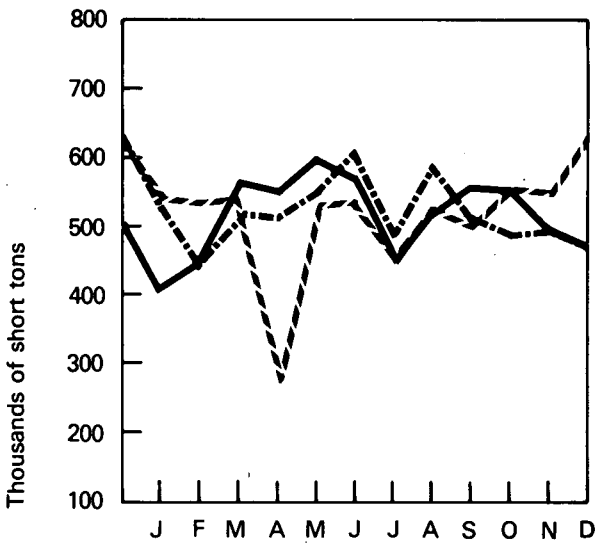


1975
1976
1977

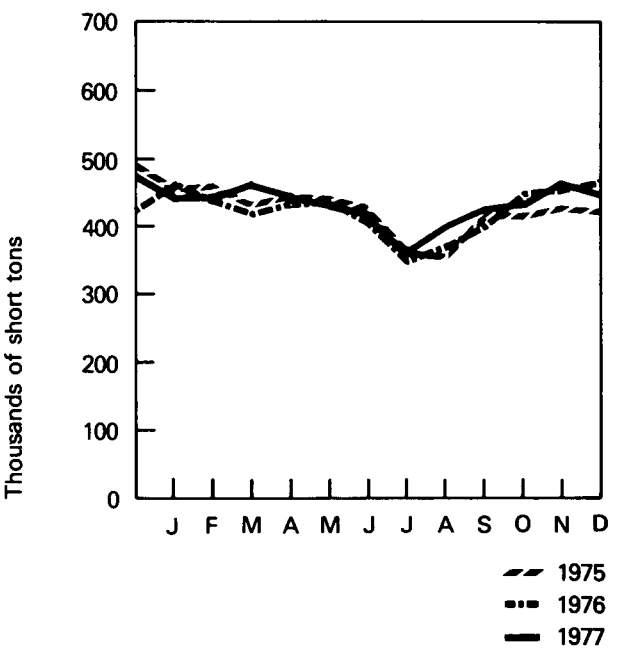
Anthracite

		Production	Apparent Domestic Consumption
		Thousands of short tons	
1972	**TOTAL**	**7,106**	**5,915**
1973	**TOTAL**	**6,830**	**5,671**
1974	**TOTAL**	**6,617**	**5,448**
1975	January	540	459
	February	535	465
	March	544	435
	April	270	450
	May	535	445
	June	544	430
	July	455	360
	August	535	356
	September	500	425
	October	560	420
	November	555	435
	December	630	428
	TOTAL	**6,203**	**5,108**
1976	January	R525	460
	February	440	430
	March	R525	420
	April	R520	435
	May	555	440
	June	R610	400
	July	R490	350
	August	R590	375
	September	R515	400
	October	R490	455
	November	R493	460
	December	R475	475
	TOTAL	**R6,228**	**5,100**
1977	January	400	440
	February	450	450
	March	570	470
	April	550	450
	May	600	440
	June	570	420
	July	450	360
	August	525	400
	September	560	430
	October	550	435
	November	R500	470
	December	475	450
	TOTAL	**6,200**	**5,215**

Production



Apparent Domestic Consumption



Source: Bureau of Mines *Mineral Industry Surveys*, "Weekly Coal Report" through September 1977; and EIA *Energy Data Reports*, "Weekly Coal Report" for October 1977 forward.

Part 5 Electric Utilities

Electric Utilities

Electric utilities produced 166.3 billion kilowatt hours of electricity in November 1977, 1.7 percent below the level for November 1976. Total production during the first 11 months of 1977 was 1.9 trillion kilowatt hours, 4.6 percent higher than the production level for the similar period of 1976. December utility generation is preliminarily estimated at 181.0 billion kilowatt hours.[1]

Electric utility consumption of coal, oil, and gas during November 1977 was 38.6 million tons, 43.0 million barrels, and 233.8 billion cubic feet, which represents decreases of 0.6 percent and 17.7 percent, and an increase of 7.6 percent, respectively, when compared to the levels for the corresponding month in 1976. During the first 11 months of 1977, consumption of coal, oil, and gas was up 7.1 percent, 14.2 percent, and 3.7 percent, respectively, from consumption during the same period in 1976.

With possible shortages anticipated as a result of the impending coal strike, utility coal and oil stocks on November 30, 1977, were the largest end-of-month stockpiles on record. Stocks at coal-fired plants reached 149.4 million tons, an increase of 25.2 percent over the level for the same month of 1976. Oil stocks were 148.2 million barrels, up 17.0 percent compared with the level 1 year earlier.

Sales of electricity to ultimate industrial customers during August 1977 totaled 66.5 billion kilowatt hours, 4.1 percent above sales for August 1976. Sales to ultimate residential customers, at 62.4 billion kilowatt hours, were 8.9 percent higher. Sales to ultimate commercial customers totaled 42.4 billion kilowatt hours, up 6.3 percent from the level 1 year earlier.

The primary causes of the increase in industrial sales of electricity were a 6.3-percent increase in industrial production[2] coupled with a 3.5-percent increase in the number of industrial customers reported by Class A and B utilities.[3] The sharp increase in ultimate residential sales is largely due to a 2.1-percent rise in the number of Class A and B residential electricity customers and to warm August weather.[4] A major factor affecting the growth in ultimate commercial sales was a 2.0-percent increase in the number of Class A and B commercial electricity customers.

[1]December utility generaton is based on Form 4 reports received by EIA for 81.2 percent of the total current capacity; data for the remaining units are estimated based on the previous month's reports.

[2]Industrial production is based upon information obtained from the Federal Reserve Bulletin.

[3]See Explanatory Note 9.

[4]Cooling degree-days in August were 20 percent greater than in August 1976.

Electric Utilities

Net Electricity Production

		Coal	Oil	Gas	Nuclear	Hydro-electric	Other*	Total
				Millions of Kilowatt hours				
1971	**TOTAL**	**714,680**	**218,622**	**374,027**	**38,105**	**266,301**	**859**	**1,612,593**
1972	**TOTAL**	**772,857**	**272,550**	**375,735**	**54,091**	**272,612**	**1,783**	**1,749,629**
1973	**TOTAL**	**848,988**	**312,940**	**340,804**	**83,334**	**272,081**	**2,294**	**1,860,440**
1974	**TOTAL**	**829,973**	**299,363**	**320,055**	**113,976**	**301,032**	**2,704**	**1,867,103**
1975	January	74,860	30,608	19,689	13,938	25,011	219	164,325
	February	67,301	24,905	18,049	12,733	23,886	206	147,080
	March	69,188	23,111	20,099	14,882	27,970	231	155,481
	April	64,465	21,246	20,323	13,327	26,624	231	146,217
	May	64,749	21,04	25,707	13,764	27,713	255	153,231
	June	70,362	23,047	28,830	12,745	27,143	316	162,442
	July	76,314	25,113	34,181	15,372	25,522	313	176,815
	August	78,895	27,944	34,041	15,880	22,612	341	179,714
	September	68,575	21,410	30,020	14,396	20,519	302	155,223
	October	69,057	21,980	26,296	14,626	22,639	346	154,944
	November	70,440	21,598	21,830	14,164	24,429	333	152,794
	December	78,762	26,904	20,706	16,679	25,978	345	169,372
	TOTAL	**852,968**	**288,908**	**299,772**	**172,506**	**300,047**	**3,437**	**1,917,638**
1976	January	83,707	32,214	19,895	16,099	26,070	344	178,329
	February	73,532	24,767	19,163	14,377	24,521	323	156,683
	March	76,570	25,420	21,282	13,993	26,563	346	164,174
	April	72,571	23,299	21,867	10,982	24,137	312	153,168
	May	72,512	21,794	25,319	11,929	25,516	300	157,370
	June	76,939	25,103	R29,719	15,757	25,563	314	R173,395
	July	83,294	26,997	32,032	17,709	26,064	338	186,434
	August	84,222	28,248	R31,394	18,363	23,843	336	R186,406
	September	75,384	R23,608	28,058	17,290	R20,369	327	R165,036
	October	R76,955	24,168	R23,918	17,355	R21,042	319	R163,757
	November	R81,702	R30,060	R21,119	16,134	R19,805	293	R169,113
	December	R87,220	R34,130	R20,897	21,115	R20,220	332	R183,914
	TOTAL	**R944,608**	**R319,808**	**R294,663**	**191,103**	**R283,713**	**3,884**	**R2,037,779**
1977	January	R89,846	43,363	19,950	22,107	20,700	359	R196,325
	February	R78,752	29,429	19,480	19,601	15,150	322	R162,734
	March	R77,521	28,344	22,464	20,672	R19,801	356	R169,158
	April	R70,898	R25,840	21,305	19,863	R18,642	319	R156,867
	May	R77,071	R27,936	R24,705	20,479	18,677	341	R169,209
	June	R83,152	R28,960	R29,609	21,268	17,226	335	R180,550
	July	R92,408	R34,866	R32,712	21,825	16,797	R328	R198,936
	August	R90,764	R32,302	R33,292	22,739	16,712	317	R196,126
	September	R82,593	R26,348	R30,945	19,588	R16,455	342	R176,271
	October	R79,401	R23,077	R27,373	18,967	R17,221	360	R166,399
	November	79,403	24,800	22,492	18,840	20,395	347	166,277
	December**	83,836	30,244	21,424	22,535	22,655	345	181,039
	TOTAL	**985,645**	**355,509**	**305,751**	**248,484**	**220,431**	**4,071**	**2,119,891**

(See chart on page 37)

*Includes electricity produced from geothermal power, wood, and waste.
**Based on Form 4 reports received by EIA for 81.20 percent of total current capacity; data for remaining units are estimated based on the previous month's reports.
R=Revised data.
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

Electric Utilities (Continued)

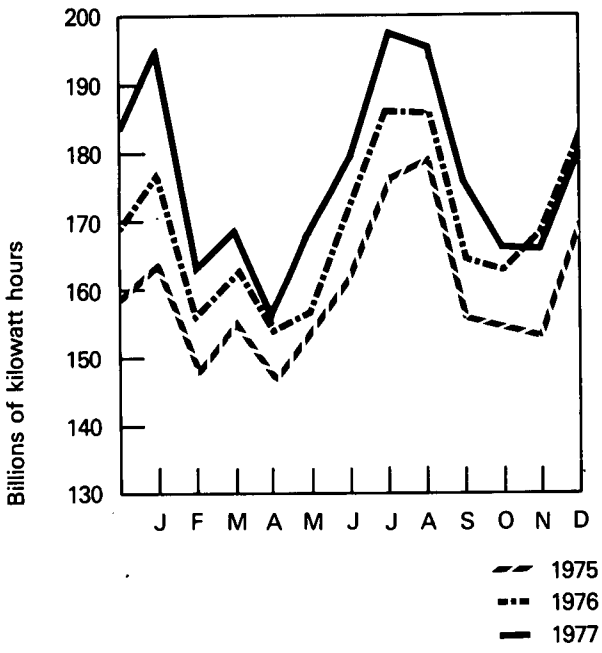
Fuel Consumption

		Coal	Oil			Gas
			Steam*	Gas Turbine/ Internal Combustion**	Total	
		Thousands of short tons	Thousands of barrels			Millions of cubic feet
1971	**TOTAL**	**327,887**	**362,186**	**34,282**	**396,468**	**3,975,971**
1972	**TOTAL**	**352,392**	**440,229**	**53,463**	**493,692**	**3,976,770**
1973	**TOTAL**	**389,707**	**513,127**	**47,020**	**560,147**	**3,659,388**
1974	**TOTAL**	**392,423**	**482,524**	**53,721**	**536,245**	**3,443,293**
1975	January	35,843	48,678	5,370	54,048	205,095
	February	32,097	39,794	3,750	43,544	188,922
	March	32,793	37,408	3,007	40,415	211,184
	April	30,547	34,702	2,335	37,037	214,250
	May	30,574	33,720	3,266	36,986	275,097
	June	33,457	36,825	4,118	40,943	307,901
	July	36,567	40,520	3,893	44,413	362,088
	August	37,967	44,565	4,755	49,320	360,199
	September	32,609	35,124	1,917	37,041	315,877
	October	32,853	36,137	1,893	38,030	275,266
	November	33,333	35,743	1,794	37,537	227,748
	December	37,390	43,724	3,090	46,814	213,957
	TOTAL	**406,030**	**466,940**	**39,188**	**506,128**	**3,157,584**
1976	January	39,986	51,114	4,974	56,088	206,528
	February	34,965	40,452	2,676	43,128	199,441
	March	36,099	41,154	2,800	R43,954	222,765
	April	33,805	37,663	2,489	40,152	R227,826
	May	33,944	35,651	2,220	37,871	R266,632
	June	36,381	40,065	3,574	43,639	R313,369
	July	39,841	43,143	4,084	R47,227	R337,640
	August	40,330	45,627	3,443	49,070	R329,737
	September	35,895	38,245	R2,526	R40,771	R295,071
	October	R36,783	R39,101	R3,106	R42,207	R250,046
	November	R38,845	R47,346	R4,971	R52,317	R217,362
	December	R41,582	R53,949	R5,564	R59,513	R214,869
	TOTAL	**R448,456**	**R513,510**	**R42,427**	**R555,937**	**R3,081,286**
1977	January	R43,255	66,250	9,645	R75,896	R205,068
	February	R37,645	R47,606	R3,206	R50,812	R200,394
	March	R37,284	46,069	R2,600	R48,669	R231,788
	April	R33,982	R42,138	R2,294	R44,432	223,326
	May	37,159	44,714	R3,911	R48,625	R259,841
	June	R40,151	R46,135	R4,414	R50,549	R310,616
	July	R44,977	54,527	R7,895	R62,423	R347,091
	August	R44,172	R51,783	R4,815	R56,598	R350,772
	September	R40,168	R43,192	R2,631	R45,823	R324,679
	October	R38,367	R38,035	R1,959	R39,994	R284,994
	November	38,612	40,574	2,459	43,033	233,806
	December***	41,204	48,837	3,761	52,598	222,965
	TOTAL	**476,976**	**569,860**	**49,590**	**619,452**	**3,195,340**

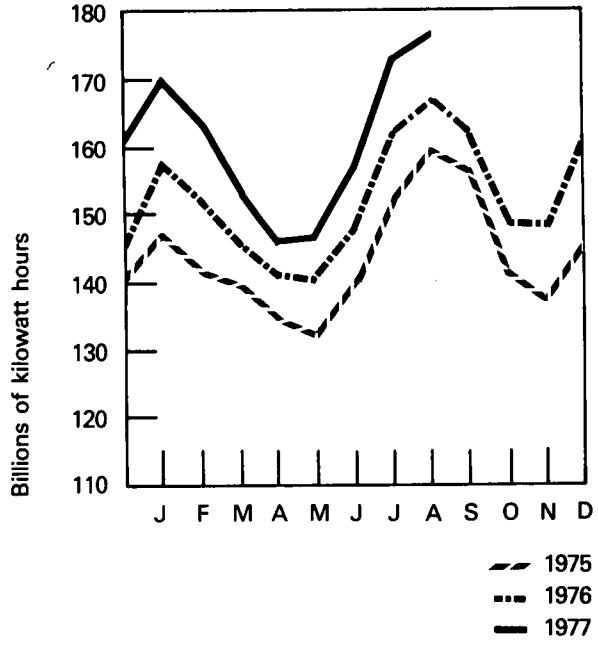
*Primarily residual fuel oil.
**Primarily middle distillates.
***Based on Form 4 reports received by EIA for 81.20 percent of the total current capacity; data for remaining units are estimated based on the previous month's reports.
R=Revised.
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

Electric Utilities

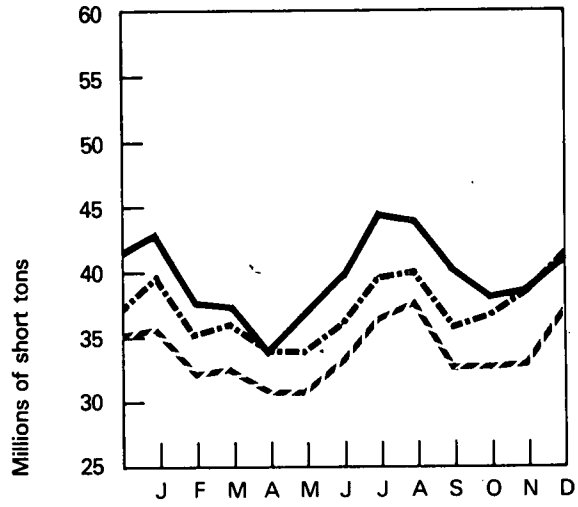
Total Net Electricity Production



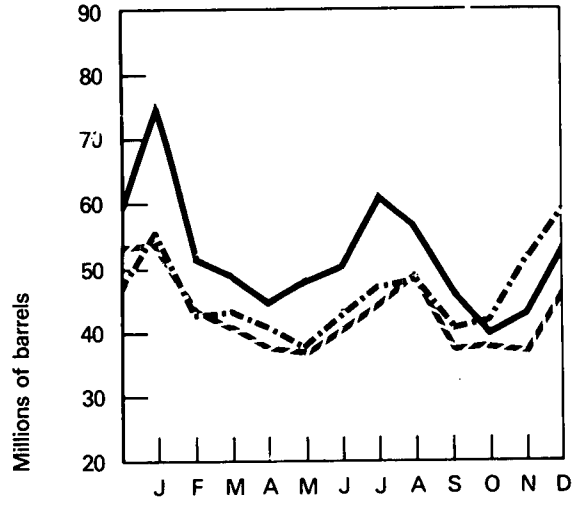
Total Electricity Sales



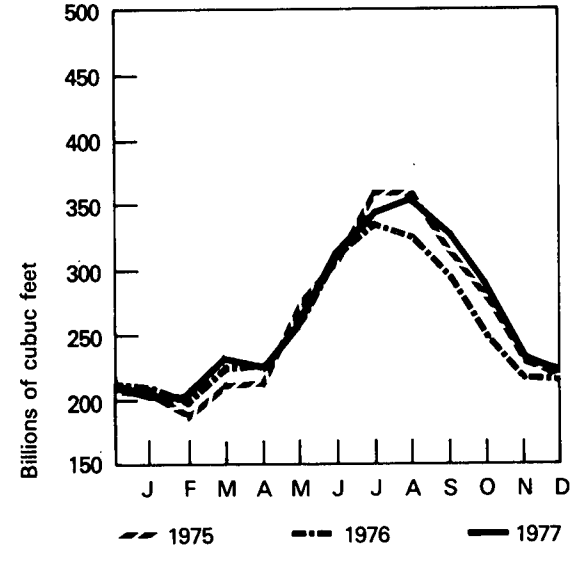
Coal Consumption



Oil Consumption



Gas Consumption



Electric Utilities (Continued)

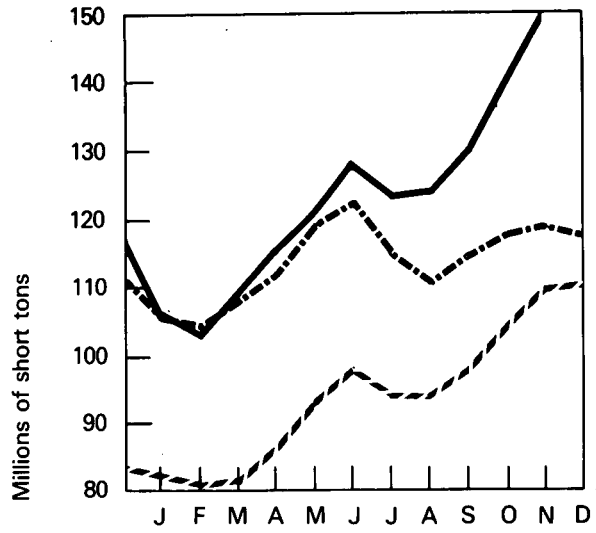
Stocks at End of Month

		Coal	Oil		
			Steam*	Gas Turbine/ Internal Combustion**	Total
		Thousands of short tons	Thousands of barrels		
1971		***78,069	***46,451	***3,194	***49,645
1972		***100,009	***52,575	***5,079	***57,654
1973		***87,279	***79,121	***10,095	***89,216
1974		***83,542	***97,201	***15,715	***112,916
1975	January	82,088	95,579	15,716	111,295
	February	80,972	95,762	15,738	111,500
	March	81,885	97,333	16,310	113,643
	April	86,829	98,004	16,294	114,298
	May	93,869	101,464	15,767	117,231
	June	98,031	103,222	15,714	118,936
	July	94,278	105,334	15,905	121,239
	August	94,213	104,926	15,739	120,665
	September	98,096	109,678	16,635	126,313
	October	105,415	112,107	16,774	128,881
	November	110,313	113,231	17,110	130,341
	December	110,750	108,358	16,886	125,244
1976	January	105,518	102,023	15,922	117,945
	February	104,874	102,147	16,706	118,853
	March	108,450	R104,082	R16,467	R120,550
	April	112,862	R103,757	R16,642	R120,399
	May	119,611	R109,142	R16,962	R126,105
	June	123,048	R109,660	R16,621	R126,281
	July	115,204	R110,829	R15,862	R126,691
	August	110,752	R109,823	R16,007	R125,830
	September	115,399	R112,965	R17,059	R130,024
	October	118,591	R114,437	R16,954	R131,391
	November	R119,323	R111,137	R15,517	R126,655
	December	R117,463	R106,744	R14,980	R121,724
1977	January	R106,183	R89,877	12,965	R102,842
	February	R103,262	R95,641	R14,389	R110,030
	March	R109,620	R96,872	R15,780	R112,652
	April	R115,915	R101,502	R16,117	R117,619
	May	R122,834	R103,802	R16,134	R119,936
	June	R128,817	R107,666	R15,914	R123,580
	July	R123,367	R112,938	R16,346	R129,284
	August	R123,856	R119,301	R17,394	R136,695
	September	R130,380	R125,065	R18,164	R143,229
	October	R139,705	R128,181	R19,423	R147,604
	November	149,408	129,294	18,903	148,197

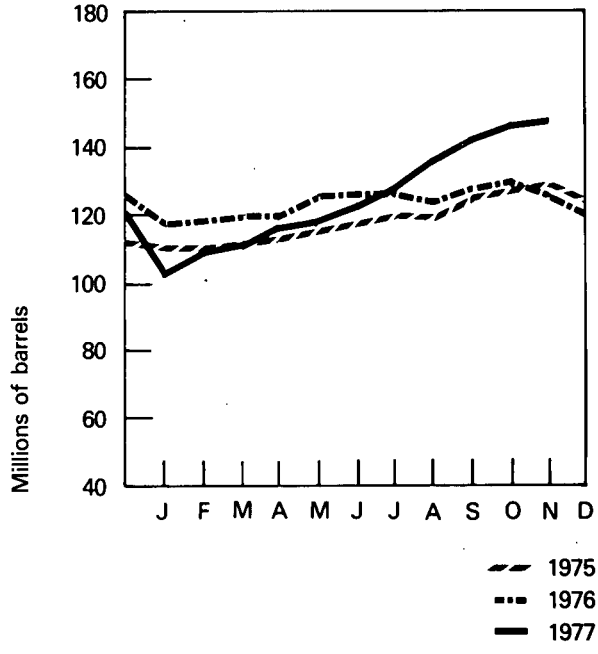
*Primarily residual fuel oil.
**Primarily middle distillates.
***As of December 31.
R=Revised.
Source: Federal Power Commission Form 4, "Monthly Powerplant Report."

Electric Utilities

Coal Stocks



Oil Stocks



Electric Utilities (Continued)

Electricity Sales*

		Residential	Commercial	Industrial	Other**	Total
			Millions of kilowatt hours			
1972	**TOTAL**	**538,609**	**359,265**	**640,978**	**56,309**	**1,595,161**
1973	**TOTAL**	**579,231**	**388,266**	**686,085**	**59,326**	**1,712,909**
1974	**TOTAL**	**578,184**	**384,826**	**684,875**	**58,039**	**1,705,924**
1975	January	54,003	32,405	55,505	5,954	147,867
	February	50,219	31,459	54,328	5,544	141,550
	March	47,968	31,194	54,437	5,639	139,238
	April	44,762	30,473	53,910	5,269	134,414
	May	41,077	30,926	54,767	5,404	132,174
	June	45,766	35,210	55,369	5,384	141,729
	July	53,972	37,631	55,524	5,644	152,771
	August	57,291	38,576	57,868	5,709	159,444
	September	54,362	37,325	58,619	5,978	156,284
	October	43,024	32,817	58,815	5,745	140,401
	November	42,054	31,608	58,223	5,976	137,861
	December	50,213	32,596	57,433	5,907	146,149
	TOTAL	**584,711**	**402,220**	**674,798**	**68,153**	**1,729,882**
1976	January	60,126	34,955	57,463	6,359	158,903
	February	54,264	33,809	58,064	5,855	151,992
	March	47,041	32,520	60,322	5,967	145,850
	April	43,563	31,813	59,967	5,386	140,729
	May	41,044	32,538	61,133	5,473	140,188
	June	44,131	35,325	62,654	5,371	147,481
	July	53,702	39,489	62,388	5,856	161,436
	August	R57,349	R39,933	R63,921	R5,829	R167,032
	September	53,460	38,503	64,653	6,134	162,750
	October	44,762	34,388	64,208	5,420	148,778
	November	46,674	33,372	63,106	5,606	148,758
	December	56,750	35,579	62,842	5,626	160,797
	TOTAL	**R602,866**	**R422,224**	**R740,921**	**R68,882**	**R1,834,694**
1977	January	65,280	37,362	61,638	6,006	170,286
	February	61,492	35,969	60,687	5,549	163,697
	March	50,374	33,660	63,275	5,748	153,057
	April	44,564	33,051	63,583	5,078	146,276
	May	41,497	34,111	65,559	5,240	146,407
	June	49,438	37,601	66,073	5,595	158,707
	July	60,955	41,745	64,708	5,935	173,343
	August	62,440	42,433	66,521	5,837	177,231
	TOTAL (8 months)	**436,040**	**295,932**	**512,044**	**44,988**	**1,289,004**

(See chart on page 37)

*Electricity sales to ultimate consumers.
**Includes street lighting and trolley cars.
R=Revised.
Source: Federal Power Commission Form 5, "Monthly Statement of Electric Operating Revenue and Income."

Nuclear Power

The 63 domestic reactors in commercial operation, with a total maximum dependable capacity of 44,820 electrical megawatts, performed at 71 percent of capacity during December, the highest monthly performance level in 1977. The annual operating performance level for commercial nuclear powerplants was 65 percent of maximum dependable capacity in 1977, compared with 60 percent in 1976 and 59 percent in 1975.

Nuclear powerplants (including reactors in startup testing and the two reactors owned by the Department of Energy) generated 12.4 percent of the Nation's total electricity during December, compared with 11.5 and 9.9 percent for the same month in 1976 and 1975, respectively. For the entire year, nuclear power contributed 11.7 percent of total electricity generation, compared with 9.4 percent in 1976 and 9.0 percent in 1975.

Farley 1, an 829-megawatt pressurized water reactor and Alabama Power Company's first nuclear plant, achieved commercial operation status on December 1. The second unit of the Farley project, located near Dothan, Alabama, is scheduled for completion in May 1979. Four reactors with capacities totaling 4,020 megawatts are now operating in Alabama, the remaining 3 being the Tennessee Valley Authority's Browns Ferry units located in the northwest portion of the state.

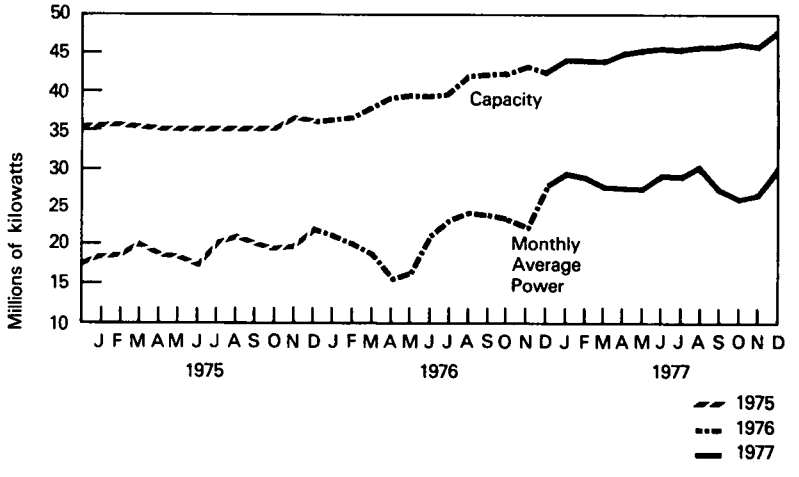
One operating license was issued during December, to the Indiana and Michigan Power Company for Cook 2 reactor (1,095 megawatts). Construction permits were issued to the Duke Power Company for the three-unit Cherokee project (3,840 megawatts) located in Gaffney, South Carolina; and to the Northern States Power Company for Tyrone 1 (1,150 megawatts) located in Durand, Minnesota.

During 1977, domestic nuclear capacity (including licensed units in startup testing) increased approximately 6 percent, from 46,095 megawatts (63 reactors) to 49,011 megawatts (67 reactors). Nuclear electricity generation, however, increased at a much greater rate (30 percent), from 191 billion kilowatt hours in 1976 to 248 billion kilowatt hours in 1977.

U.S. Nuclear Powerplant Operations*

		Maximum Dependable Capacity	Average Power	Percent of Total Domestic Electricity Generation
		Thousands of net kilowatts		
1972	**AVERAGE**	**7,726**	**6,174**	**3.1**
1973	**AVERAGE**	**13,850**	**8,760**	**4.5**
1974	**AVERAGE**	**29,921**	**13,011**	**6.1**
1975	January	35,691	18,734	8.5
	February	35,899	18,948	8.7
	March	35,686	20,003	9.6
	April	35,017	18,510	9.1
	May	35,017	18,500	9.0
	June	35,322	17,701	7.8
	July	35,596	20,661	8.7
	August	35,589	21,344	8.8
	September	35,540	19,994	9.3
	October	35,540	19,659	9.4
	November	36,752	19,672	9.3
	December	36,424	22,418	9.9
	AVERAGE	**35,671**	**19,692**	**9.0**
1976	January	36,750	21,638	9.0
	February	36,879	20,657	9.2
	March	38,072	18,808	8.5
	April	39,763	15,142	7.2
	May	39,902	16,034	7.6
	June	39,781	21,885	9.1
	July	40,168	23,802	9.5
	August	42,067	24,681	9.8
	September	42,896	24,014	10.5
	October	42,877	23,327	10.6
	November	43,673	22,408	9.5
	December	42,877	28,380	11.5
	AVERAGE	**40,642**	**21,756**	**9.4**
1977	January	44,316	29,714	11.3
	February	44,282	29,168	12.0
	March	44,289	27,785	12.2
	April	45,131	R27,625	12.7
	May	45,222	27,526	12.1
	June	45,991	29,539	11.8
	July	45,984	29,335	11.0
	August	45,982	30,563	11.6
	September	45,981	27,206	11.1
	October	46,018	25,459	11.4
	November	45,970	R26,167	R11.3
	December**	47,973	30,289	12.4
	AVERAGE	**45,604**	**28,366**	**11.7**

U.S. Nuclear Powerplants



*Includes all units licensed to operate, whether in commercial operation or startup testing.
**Preliminary data.
R=Revised data.
Sources: Capacity data are from U.S. Nuclear Regulatory Commission; remaining data are from Federal Power Commission Form 4, "Monthly Powerplant Report."

Status of Nuclear Powerplants—December 31, 1977

Status	Number of Plants					Design Capacity
	Boiling Water Reactors	High Temperature Gas Reactors	Pressurized Water Reactors	Other*	Total	Net Electrical Megawatts
Licensed to operate	25	1	41	0	67	49,000
Construction permit granted	27	0	53	0	80	87,000
Construction permit pending	11	0	37	4	52	57,000
Orders placed for plant	3	0	10	0	13	16,000
Publicly announced	—	—	—	9	9	11,000
TOTAL	**66**	**1**	**141**	**13**	**221**	**220,000**

*Includes 1 Liquid Metal Fast Breeder Reactor and 12 announced intentions to order for which a reactor type has not been chosen.
Source: U.S. Nuclear Regulatory Commission.

U.S. Uranium Enrichment—December 1977

	Domestic Customers	Foreign Customers	Total
Separative work performed (in metric tons of separative work units)	1,194.037	542.553	1,736.589
Cost (in millions of dollars)	80.742	36.843	117.585
Product quantity (in metric tons of uranium)	322.920	127.814	450.734
Feed requirement (in metric tons of uranium)	1,619.643	692.561	2,312.203

Source: U.S. Department of Energy.

Nuclear Power Generation by Major Non-Communist Countries—December 1977

Country	Number of Reactors*	Capacity	Generation of Electricity				
			Generation	Percent of Design Capacity			
			December	December	Year**		
					1975	1976	1977
		Thousands of gross electrical kilowatts	Millions of gross kilowatt hours				
Canada	***8	4,790	2,556	79	64	85	76
Federal Republic of Germany	10	6,410	3,404	71	72	68	64
France	12	4,930	2,118	58	68	58	52
Great Britain	†31	8,100	3,994	59	57	64	55
India	3	620	80	17	46	58	51
Italy	3	630	308	66	69	69	61
Japan	14	7,990	2,986	50	36	57	41
Spain	3	1,120	697	84	77	77	67
Sweden	6	3,880	2,735	95	44	55	59
Switzerland	3	1,060	792	100	84	86	87
United States	66	48,340	24,738	69	60	56	64
TOTAL	**159**	**87,880**	**44,409**	**68**	**58**	**60**	**61**

*Includes only operational units, i.e., those which have generated electricity during, or prior to, the current month.
**Averages are computed for those units in operation on January 1 of each year.
***Figures are based on 5-week period.
†Figures for 21 units are based on 5-week period; figures for remaining units are for 31 days.
Source: *Nucleonics Week.*

Summary of Monthly Fuel Cycle–November 1977

Fuel Cycle Activity	Product	Processed Material[1]	Percent Utilization of Industry Capacity	Energy Content of Processed Material[2]	Energy Consumed in Fuel Cycle Activity[3]	Cost Contribution to Electric Power[4]
		MTU except where noted		Billion Btu		Mills per kilowatt hour
Milling	Yellowcake (U_3O_8) Deliveries	430	41	147,000	236	1.27
Conversion	Uranium Hexafluoride (UF_6) Deliveries	1,258	[5]88	429,000	189	0.16
Enrichment	Enriched UF_6 Deliveries	270 (1,037 MT-SWU)	([6])	553,000	2,460	1.53
Fabrication	Finished Fuel Assemblies Shipped	183	NA	375,000	51	0.47
Powerplant Operation	Electricity Generated	18,519 (million kWhe)	61	198,000	967 (million kWhe)	10.93
	Spent Fuel Discharged	78	—	—	—	
Reprocessing	Spent Fuel Received	5	—	—	—	[7]1.57
	Spent Fuel Reprocessed	0	—	—	—	

[1] Units of measure are discussed in Explanatory Notes 10 and 11.
[2] Assumes 25,000 MWD/MTU for heat content of enriched uranium and a 6.1 feed to product ratio at the enrichment plant.
[3] Energy requirements for processing are obtained from U.S.A.E.C. Report No. WASH 1248.
[4] Cost contribution is computed from unit prices paid for current month's production and requirement for a model 1000 MWe reactor operating at 65 percent capacity factor. Because of the long lead time required for nuclear fuel processing, the sum of numbers in this column does not necessarily reflect the fuel cost of current electricity production.
[5] Figure for conversion utilization represents material shipped.
[6] ERDA's enrichment plants are presently operating at maximum utilization of available electric power, with the excess production being placed in the "Preproduction stockpile" in anticipation of high demand for enriched uranium in the 1980's.
[7] Figure represents current industry estimate for cost of spent fuel shipment, reprocessing, and waste disposition, exclusive of cost credits for recovered uranium and plutonium.
NA=Not available.
Source: DOE.

Energy Consumption

Domestic energy consumption in November 1977 was 6.32 quadrillion Btu, 4.1 percent less than in November 1976 but 10.0 percent more than in November 1975. The sectoral breakout for November is not yet available.

In October 1977, the combined residential/commercial sector consumed 2.04 quadrillion Btu, which was 5.3 percent more than in October 1976 and 9.9 percent more than in October 1975.

Industrial energy consumption for October 1977 was 2.44 quadrillion Btu, which was 4.8 percent less than in October 1976 but 2.7 percent more than in October 1975.

Transportation consumption for October 1977 was 1.65 quadrillion Btu, up 3.1 percent and 5.6 percent from consumption in October 1976 and 1975, respectively.

Petroleum Consumption and Forecast

Total domestic demand for petroleum products in December 1977 was 19.5 million barrels per day, 5.0 percent below the December 1976 level and 5.9 percent below the EIA forecast level. Distillate and residual fuel oils showed the same pattern as total petroleum. December demand for distillate was 4.0 million barrels per day, 13.4 percent below the December 1976 demand and 10.9 percent below the forecast. December 1977 demand for residual fuel was 3.3 million barrels per day, 7.4 percent less than in December 1976 and 9.5 percent less than the forecast. To a considerable extent, these trends reflect differences in weather. Heating degree-days in December 1977 were about 13 percent less than in December 1976.

Demand for motor gasoline in December 1977 was 7.2 million barrels per day, 0.8 percent and 5.6 percent above the demand levels for December 1976 and 1975, respectively, but 1.5 percent below the forecast.

Heating Degree-Days

The period January 2 to January 29, 1978, was much colder than normal, but not nearly as cold as the same period of 1977. National average population-weighted heating degree-days for the January period were 13.9 percent above normal, but 11.5 percent below the number accumulated during the same period a year earlier. Heating degree-days in the Midwest were 20.2 percent above normal; New England had near normal heating degree-day accumulations; the Middle Atlantic States were 8.3 percent above normal; the Lower Atlantic States were 30.0 percent above normal; and the South Central States were 45.1 percent above normal. Degree-days in the Mountain States were about normal, but the West Coast was 30.1 percent below normal.

The 1977-78 heating season through January 29 was somewhat colder than normal, but much warmer than the 1976-77 heating season. Degree-days were 4.4 percent above normal, but 15.7 percent below that of a year earlier.

Energy Consumption

Domestic Energy Consumption by Primary Energy Type

		Coal*	Natural Gas (dry)	Petroleum	Hydroelectric Power**	Nuclear Electric Power	Total	Cumulative Total
				Quadrillion (10^{15}) Btu				
1972	**TOTAL**	**12.424**	**22.984**	**32.965**	**2.946**	**0.567**	**71.895**	
1973	**TOTAL**	**13.294**	**22.512**	**34.852**	**3.006**	**0.888**	**74.553**	
1974	**TOTAL**	**12.889**	**21.732**	**33.468**	**3.295**	**1.215**	**72.600**	
1975	January	1.148	2.295	3.067	0.268	0.149	6.927	6.927
	February	1.054	1.980	2.629	0.256	0.136	6.054	12.982
	March	1.087	1.943	2.780	0.299	0.159	6.267	19.249
	April	1.004	1.608	2.646	0.285	0.142	5.685	24.934
	May	0.984	1.359	2.582	0.296	0.147	5.368	30.301
	June	1.032	1.283	2.574	0.290	0.136	5.315	35.616
	July	1.091	1.341	2.682	0.273	0.164	5.550	41.167
	August	1.131	1.398	2.693	0.243	0.169	5.634	46.800
	September	1.015	1.399	2.600	0.221	0.153	5.388	52.188
	October	1.035	1.576	2.790	0.243	0.156	5.801	57.989
	November	1.059	1.674	2.601	0.262	0.151	5.747	63.736
	December	1.174	2.092	3.098	0.278	0.178	6.821	70.557
	TOTAL	**12.813**	**19.948**	**32.742**	**3.215**	**1.839**	**70.557**	
1976	January	1.218	R2.339	3.169	0.281	0.172	R7.179	R7.179
	February	1.078	R1.980	2.778	0.265	0.153	R6.254	R13.432
	March	1.119	R1.758	2.947	0.286	0.149	R6.260	R19.692
	April	1.070	R1.539	2.749	0.261	0.117	R5.735	R25.427
	May	1.072	R1.465	2.722	0.275	0.127	R5.661	R31.088
	June	1.115	R1.363	2.776	0.276	0.168	R5.698	R36.786
	July	1.188	R1.402	2.830	0.281	0.189	R5.889	R42.675
	August	1.197	R1.345	2.835	0.258	0.196	R5.830	R48.506
	September	1.099	R1.329	2.774	0.222	0.184	R5.608	R54.114
	October	1.134	R1.657	2.905	0.229	0.185	R6.110	R60.224
	November	1.182	R1.915	3.107	0.216	0.172	R6.592	R66.817
	December	1.281	R2.280	3.494	0.220	0.225	R7.499	R74.316
	TOTAL	**13.752**	**R20.372**	**35.087**	**3.068**	**2.037**	**R74.316**	
1977	January	1.312	2.444	3.489	0.225	0.236	7.706	7.706
	February	1.169	1.834	3.143	0.168	0.209	6.522	14.228
	March	1.157	1.731	3.076	0.216	0.220	6.400	20.628
	April	1.080	1.441	2.897	0.204	0.212	R5.833	26.462
	May	1.152	1.387	2.890	0.204	0.218	5.850	32.312
	June	1.203	1.342	2.976	0.189	0.227	5.936	38.247
	July	1.315	1.335	2.990	0.185	0.233	6.058	44.305
	August	1.279	1.371	3.029	0.184	0.242	6.105	50.410
	September	1.182	R1.432	2.945	R0.181	0.209	R5.949	R56.359
	October	1.172	R1.526	R3.048	0.189	0.202	R6.138	62.497
	November	1.185	1.705	3.008	0.222	0.201	6.321	68.818
	TOTAL (11 months)	**13.205**	**17.548**	**33.491**	**2.166**	**2.409**	**68.818**	

*Includes bituminous coal, lignite, and anthracite coal.
**Includes utility production, industrial production, and net imports.
R=Revised.
Source: EIA calculations based on data appearing elsewhere in this publication.

Domestic Energy Consumption by Economic Sector*

		Residential/ Commercial	Industrial	Transportation	Total
			Quadrillion (10^{15}) Btu		
1973**	**TOTAL**	**26.515**	**29.161**	**18.877**	**74.553**
1974**	**TOTAL**	**25.853**	**28.486**	**18.261**	**72.600**
1975	January	2.845	2.489	1.594	6.927
	February	2.583	2.064	1.408	6.054
	March	2.554	2.176	1.537	6.267
	April	2.302	1.861	1.523	5.685
	May	1.897	1.934	1.537	5.368
	June	1.811	1.987	1.517	5.315
	July	1.943	2.057	1.550	5.550
	August	1.925	2.144	1.564	5.634
	September	1.789	2.125	1.474	5.388
	October	1.860	2.380	1.561	5.801
	November	1.953	2.343	1.452	5.747
	December	2.649	2.523	1.649	6.821
	TOTAL	**26.111**	**26.081**	**18.365**	**70.557**
1976	January	3.115	R2.434	1.629	R7.179
	February	2.681	R2.111	1.462	R6.254
	March	2.429	R2.204	1.626	R6.260
	April	2.084	R2.071	R1.581	R5.735
	May	1.913	R2.194	R1.554	R5.661
	June	1.865	R2.233	1.600	R5.698
	July	1.969	R2.283	1.637	R5.889
	August	R1.974	R2.264	R1.593	R5.830
	September	1.835	R2.215	1.558	R5.608
	October	R1.942	R2.569	1.599	R6.110
	November	2.362	R2.588	1.642	R6.592
	December	2.991	R2.716	1.792	R7.499
	TOTAL	**R27.160**	**R27.883**	**R19.273**	**R74.316**
1977	January	3.423	2.559	1.723	7.706
	February	2.969	1.973	1.580	6.522
	March	2.495	2.252	1.652	6.400
	April	2.095	2.113	1.625	R5.833
	May	1.920	2.322	1.608	5.850
	June	1.972	2.315	1.649	5.936
	July	R2.118	R2.270	R1.670	6.058
	August	R2.096	R2.331	1.678	6.105
	September	R1.986	R2.354	R1.610	R5.949
	October	2.044	2.445	1.648	6.138
	TOTAL (10 months)	**23.118**	**22.937**	**16.443**	**62.497**

*See Explanatory Note 12 for definitions of the Residential/Commercial, Industrial, and Transportation sectors. The methodology used for sector calculations is provided in the footnotes of the next table.
**Monthly data for 1973 and 1974 are published in the September 1977 issue of the *Monthly Energy Review*.

Energy Consumption by Economic Sector and Primary Source—October 1977 [Quadrillion (10^{15}) Btu]

Sector[1]	Primary Energy Source									
	Coal[2]	Natural Gas (dry)[3]	Petroleum[4]	Hydroelectric[5]	Nuclear[6]	Primary Energy Consumption	Electricity Distributed[7]	Net Energy Consumption	Electrical Energy Loss Distributed[8]	Ultimate Energy Disposition
Residential and Commercial	0.019	0.376	0.617	—	—	1.012	0.322	1.334	0.710	2.044
Industrial	0.323	0.814	0.600	0.003	—	1.739	0.221	1.960	0.486	2.445
Transportation	0.001	0.044	1.586	—	(9)	1.631	0.005	1.637	0.012	1.648
Electric Utilities	0.830	0.292	0.245	0.186	0.202	1.756	—	—	—	—
TOTAL	**1.172**	**1.526**	**3.048**	**0.189**	**0.202**	**6.138**	**0.548**	**4.931**	**1.207**	**6.138**

[1] See Explanatory Note 12 for definitions of the Residential and Commercial, Industrial, Transportation, and Electric Utilities Sectors.
[2] Data are from the Bureau of Mines. Includes anthracite and bituminous coal and lignite.
[3] Aggregate data are from the Bureau of Mines. FPC provided data on natural gas consumed by electric utilities. Data from the American Gas Association are used for the Residential and Commercial Sector, which includes 100 percent of the AGA "Other" category. Natural gas used in transportation, mostly for pipeline use, is estimated to be 3.6 percent of total natural gas consumption less electric utilities. This percentage is derived from 1974, 1975, and 1976 Bureau of Mines data on consumption. The Industrial Sector is then the difference between the total and the sum of the other sectors.
[4] Aggregate petroleum data are from the Bureau of Mines. FPC provided data on oil consumed by electric utilities. Petroleum consumed in transportation was calculated based on Department of Transportation data as follows: Motor gasoline—100 percent; naphtha jet fuel—100 percent; kerosene jet fuel—97 percent; distillate fuel oil—30.3 percent; residual fuel oil—11.2 percent; all other products—4.7 percent. The remainder is distributed to economic sectors using the following percentage shares, derived from 1974, 1975, and 1976 Bureau of Mines data on consumption: Residential and Commercial—50.7 percent; Industrial—49.3 percent.
[5] FPC hydroelectric power production plus net imports of electricity. These imports are assumed to be from hydroelectric power sources and are estimated at 0.011 quadrillion Btu per month in 1974, 0.005 quadrillion Btu per month for 1975, and 0.007 quadrillion Btu per month for 1976 and 1977. Monthly industrial hydroelectric power consumption is estimated to be one-twelfth of the preliminary Bureau of Mines annual figure for 1976.
[6] FPC nuclear power production.
[7] Electricity was distributed using Edison Electric Institute data on kilowatt-hour sales to ultimate customers. Electrical energy consumed by railroads and for street and highway lighting was distributed to the Transportation Sector. All "Other" sales, largely for use in government buildings, were distributed to the Residential and Commercial Sector.
[8] In generating electricity with nuclear or fossil fuels, approximately 65 percent of the energy is lost in the form of heat. Transmission and distribution losses consume about an additional 3 percent of the energy inputs of the utility industry. In order to fully account for all energy consumed both directly and indirectly (i.e., ultimate energy disposition), the electricity losses are allocated to the final end-use sectors in proportion to their direct kilowatt-hour usage.
[9] Negligible.

Energy Consumption (Continued)

Percent Changes in Energy Consumption for October 1977 by Sources and Economic Sectors

	October 1977 Consumption	Percent Change from October 1976*	Cumulative Percent Change from 1976 (January through October)*
	Quadrillion Btu		
Refined Petroleum Products	3.048	+4.9	+7.4
Motor Gasoline	1.162	+3.0	+2.9
Jet Fuel	0.176	+10.9	+4.7
Distillate	0.543	-0.7	+11.2
Residual	0.519	+6.0	+14.5
Other Petroleum Products	0.648	+10.8	+8.4
Natural Gas (Dry)	1.526	-7.9	-1.7
Coal (Anthracite, bituminous, and lignite)	1.172	+3.3	+6.8
Hydroelectric and Nuclear Electric Power	0.548	+8.0	+6.6
TOTAL ENERGY USE	**6.138**	**+0.4**	**+4.1**
Economic Sector Consumption			
Residential and Commercial	2.044	+5.3	+6.4
Industrial	2.445	-4.8	+1.9
Transportation	1.648	+3.1	+4.2

*Computed on a daily average basis.

Energy Consumption (Continued)

Energy Consumption by the Residential and Commercial Economic Sector[1]

		Coal	Natural Gas (dry)	Petroleum[2]	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
				Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**0.295**	**7.577**	**7.077**	**3.445**	**8.120**	**26.515**	
1974	**TOTAL**	**0.297**	**7.427**	**6.484**	**3.424**	**8.222**	**25.853**	
1975	January	0.035	1.124	0.627	0.310	0.748	2.845	2.845
	February	0.023	1.105	0.526	0.292	0.637	2.583	5.427
	March	0.022	1.018	0.546	0.284	0.684	2.554	7.981
	April	0.015	0.905	0.489	0.270	0.623	2.302	10.283
	May	0.012	0.522	0.444	0.259	0.660	1.897	12.180
	June	0.013	0.338	0.435	0.290	0.735	1.811	13.991
	July	0.016	0.294	0.463	0.327	0.843	1.943	15.934
	August	0.015	0.267	0.447	0.342	0.855	1.925	17.859
	September	0.021	0.284	0.484	0.328	0.673	1.789	19.648
	October	0.023	0.375	0.539	0.273	0.650	1.860	21.509
	November	0.024	0.526	0.503	0.266	0.634	1.953	23.462
	December	0.033	0.930	0.635	0.297	0.754	2.649	26.111
	TOTAL	**0.255**	**7.688**	**6.135**	**3.538**	**8.495**	**26.111**	
1976	January	0.031	1.254	0.656	0.340	0.834	3.115	3.115
	February	0.020	1.090	0.575	0.315	0.681	2.681	5.796
	March	0.018	0.856	0.571	0.286	0.698	2.429	8.225
	April	0.021	0.671	0.500	0.271	0.622	2.084	10.309
	May	0.016	0.488	0.506	0.265	0.638	1.913	12.222
	June	0.015	0.333	0.489	0.285	0.744	1.865	14.087
	July	0.011	0.281	0.487	0.333	0.856	1.969	16.056
	August	0.015	0.259	0.506	R0.347	0.847	R1.974	R18.030
	September	0.017	0.272	0.517	0.329	0.700	1.835	R19.866
	October	0.020	0.395	R0.566	0.283	0.676	R1.942	R21.807
	November	0.025	0.723	0.622	0.287	0.705	2.362	R24.169
	December	0.037	1.083	0.726	0.328	0.817	2.991	R27.160
	TOTAL	**0.246**	**7.706**	**6.722**	**R3.669**	**R8.818**	**R27.160**	
1977	January	0.036	1.376	0.712	0.365	0.934	3.423	3.423
	February	0.025	1.216	0.674	0.346	0.709	2.969	6.392
	March	0.019	0.845	0.608	0.301	0.722	2.495	8.887
	April	0.021	0.623	0.538	0.277	0.637	2.095	10.983
	May	0.017	0.405	0.529	0.271	0.698	1.920	12.902
	June	0.015	0.315	0.544	0.311	0.787	1.972	14.874
	July	0.014	0.283	R0.503	0.366	0.952	R2.118	R16.992
	August	0.014	0.256	0.537	R0.373	R0.917	R2.096	R19.088
	September	0.015	0.264	R0.564	0.355	R0.788	R1.986	R21.074
	October	0.019	0.376	0.617	0.322	0.710	2.044	23.118
	TOTAL (10 months)	**0.195**	**5.958**	**5.825**	**3.286**	**7.854**	**23.118**	

(See footnotes on page 52)

Energy Consumption by the Industrial Economic Sector[1]

		Coal	Natural Gas (dry)	Petroleum[3]	Hydro-electric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
					Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**4.370**	**10.493**	**6.403**	**0.036**	**2.341**	**5.518**	**29.161**	
1974	**TOTAL**	**4.062**	**10.137**	**6.305**	**0.036**	**2.337**	**5.609**	**28.486**	
1975	January	0.341	0.887	0.610	0.003	0.189	0.458	2.489	2.489
	February	0.342	0.619	0.511	0.003	0.185	0.404	2.064	4.553
	March	0.362	0.648	0.531	0.003	0.186	0.447	2.176	6.729
	April	0.340	0.433	0.475	0.003	0.184	0.425	1.861	8.590
	May	0.321	0.516	0.431	0.003	0.187	0.475	1.934	10.523
	June	0.299	0.595	0.423	0.003	0.189	0.478	1.987	12.510
	July	0.286	0.640	0.450	0.003	0.189	0.489	2.057	14.567
	August	0.291	0.724	0.435	0.003	0.197	0.494	2.144	16.711
	September	0.292	0.725	0.470	0.003	0.199	0.408	2.125	18.836
	October	0.303	0.872	0.524	0.003	0.201	0.478	2.380	21.216
	November	0.316	0.863	0.489	0.003	0.199	0.473	2.343	23.559
	December	0.334	0.875	0.617	0.003	0.196	0.498	2.523	26.081
	TOTAL	**3.826**	**8.425**	**5.966**	**0.035**	**2.302**	**5.527**	**26.081**	
1976	January	0.320	R0.796	0.638	0.003	0.196	0.480	R2.434	R2.434
	February	0.302	R0.621	0.559	0.003	0.198	0.428	R2.111	R4.545
	March	0.321	R0.619	0.555	0.003	0.206	0.501	R2.204	R6.749
	April	0.320	R0.587	0.487	0.003	0.205	0.470	R2.071	R8.820
	May	0.327	R0.661	0.492	0.003	0.209	0.503	R2.194	R11.015
	June	0.312	R0.671	0.475	0.003	0.214	0.558	R2.233	R13.248
	July	0.311	R0.736	0.473	0.003	0.213	0.547	R2.283	R15.531
	August	0.304	R0.711	0.492	0.003	0.219	R0.535	R2.264	R17.794
	September	0.303	R0.717	0.503	0.003	0.220	0.468	R2.215	R20.009
	October	0.318	R0.955	0.551	0.003	0.219	0.523	R2.569	R22.579
	November	0.327	R0.908	0.605	0.003	0.215	0.530	R2.588	R25.167
	December	0.357	R0.903	0.706	0.003	0.214	0.533	R2.716	R27.883
	TOTAL	**3.821**	**R8.885**	**R6.536**	**0.033**	**2.528**	**R6.079**	**R27.883**	
1977	January	0.338	0.777	0.693	0.003	0.210	0.539	2.559	2.559
	February	0.330	0.354	0.655	0.003	0.207	0.424	1.973	4.533
	March	0.331	0.594	0.591	0.003	0.216	0.518	2.252	6.785
	April	0.327	0.545	0.523	0.003	0.217	0.498	2.113	8.899
	May	0.331	0.675	0.514	0.003	0.224	0.576	2.322	11.221
	June	0.317	0.671	0.529	0.003	0.225	0.570	2.315	13.536
	July	0.321	0.661	R0.489	0.003	0.221	0.575	R2.270	R15.806
	August	0.302	0.719	0.522	0.003	R0.227	R0.558	R2.331	R18.137
	September	0.291	R0.796	R0.548	0.003	0.222	R0.494	R2.354	R20.491
	October	0.323	0.814	0.600	0.003	0.221	0.486	2.445	22.937
	TOTAL (10 months)	**3.211**	**6.606**	**5.664**	**0.027**	**2.190**	**5.238**	**22.937**	

(See footnotes on page 52)

Energy Consumption (Continued)

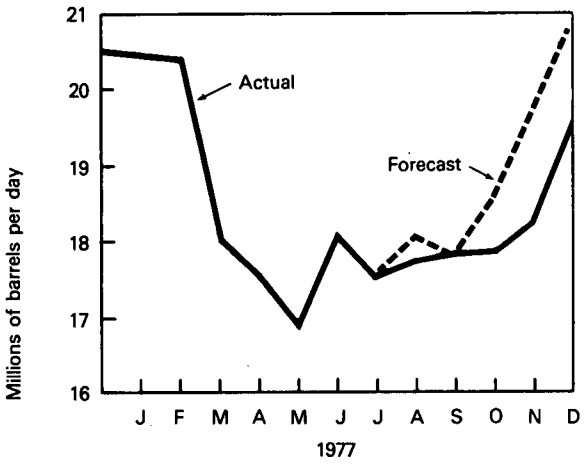
Energy Consumption by the Transportation Economic Sector[1]

		Coal	Natural Gas (dry)	Petroleum[2]	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
				Quadrillion (10^{15}) Btu				
1973	**TOTAL**	**0.009**	**0.733**	**17.940**	**0.058**	**0.137**	**18.877**	
1974	**TOTAL**	**0.009**	**0.656**	**17.392**	**0.060**	**0.144**	**18.261**	
1975	January	0.001	0.075	1.499	0.006	0.013	1.594	1.594
	February	0.001	0.064	1.325	0.005	0.012	1.408	3.002
	March	0.001	0.062	1.456	0.005	0.013	1.537	4.538
	April	0.001	0.050	1.455	0.005	0.012	1.523	6.061
	May	0.001	0.039	1.481	0.005	0.012	1.537	7.598
	June	0.001	0.035	1.465	0.005	0.012	1.517	9.115
	July	0.001	0.035	1.497	0.005	0.012	1.550	10.666
	August	0.001	0.037	1.510	0.005	0.012	1.564	12.230
	September	0.001	0.039	1.419	0.005	0.010	1.474	13.704
	October	0.001	0.047	1.495	0.005	0.013	1.561	15.264
	November	0.001	0.052	1.380	0.006	0.013	1.452	16.716
	December	0.001	0.067	1.560	0.006	0.015	1.649	18.365
	TOTAL	**0.008**	**0.602**	**17.544**	**0.062**	**0.149**	**18.365**	
1976	January	0.001	R0.077	1.532	0.006	0.015	1.629	1.629
	February	0.001	0.064	1.380	0.006	0.012	1.462	3.091
	March	0.001	0.055	1.552	0.005	0.013	1.626	4.717
	April	0.001	0.047	1.516	0.005	0.012	R1.581	R6.298
	May	0.001	0.043	1.493	0.005	0.012	R1.554	R7.851
	June	0.001	0.037	1.545	0.005	0.012	1.600	R9.451
	July	0.001	0.038	1.581	0.005	0.013	1.637	R11.088
	August	0.001	0.036	1.538	0.005	0.013	R1.593	R12.681
	September	0.001	0.037	1.504	0.005	0.011	1.558	R14.239
	October	0.001	0.050	1.530	0.006	0.013	1.599	R15.838
	November	0.001	0.061	1.561	0.006	0.014	1.642	R17.481
	December	0.001	0.074	1.697	0.006	0.015	1.792	R19.273
	TOTAL	**0.008**	**R0.620**	**18.428**	**0.064**	**0.154**	**R19.273**	
1977	January	0.001	0.080	1.620	0.006	0.016	1.723	1.723
	February	0.001	0.059	1.503	0.006	0.012	1.580	3.303
	March	0.001	0.054	1.580	0.005	0.012	1.652	4.955
	April	0.001	0.044	1.564	0.005	0.011	1.625	6.580
	May	0.001	0.040	1.549	0.005	0.013	1.608	8.188
	June	0.001	0.037	1.594	0.005	0.012	1.649	9.837
	July	0.001	0.035	R1.616	0.005	0.013	R1.670	R11.507
	August	0.001	0.036	1.624	0.005	0.012	1.678	R13.185
	September	0.001	R0.040	1.553	0.005	0.011	R1.610	R14.794
	October	0.001	0.044	1.586	0.005	0.012	1.648	16.443
	TOTAL (10 months)	**0.006**	**0.469**	**15.791**	**0.052**	**0.124**	**16.443**	

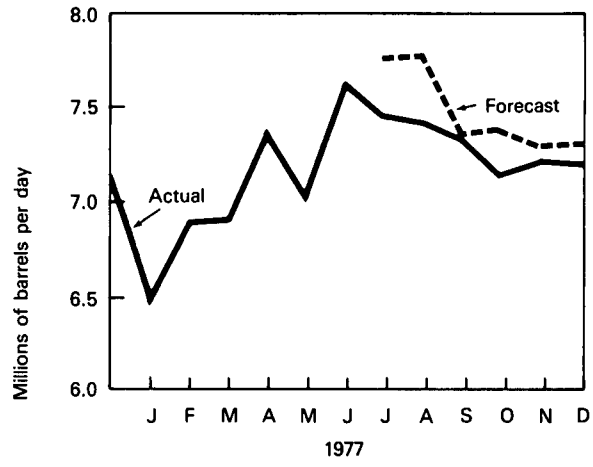
[1] See Explanatory Note 12 for definitions of the Residential and Commercial, Industrial, and Transportation Sectors. The methodology used for sector calculations is provided in the footnotes of the previous table. Printed totals may differ slightly from the sum of their row/column components due to independent rounding.
[2] The percentage share used in calculating Residential and Commercial consumption of petroleum was 52.5 percent for 1973 and 50.7 percent for 1974, 1975, 1976, and 1977.
[3] The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 49.3 percent for 1974, 1975, 1976, and 1977.
[4] The percentage share used in calculating Transportation consumption of natural gas was 3.9 percent for 1973 and 3.6 percent for 1974, 1975, 1976, and 1977.
R=Revised data.

Petroleum Consumption and Forecast

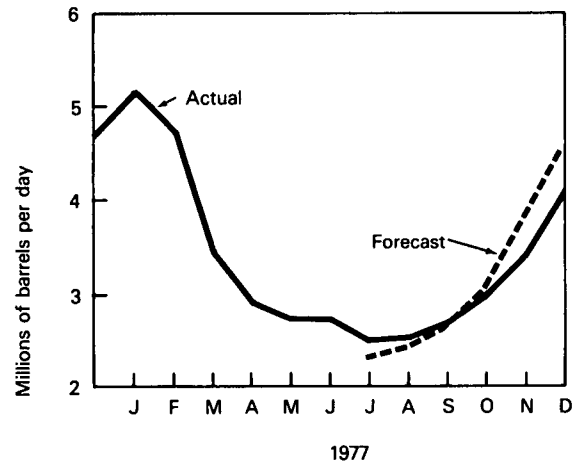
Total Domestic Demand for Petroleum Products



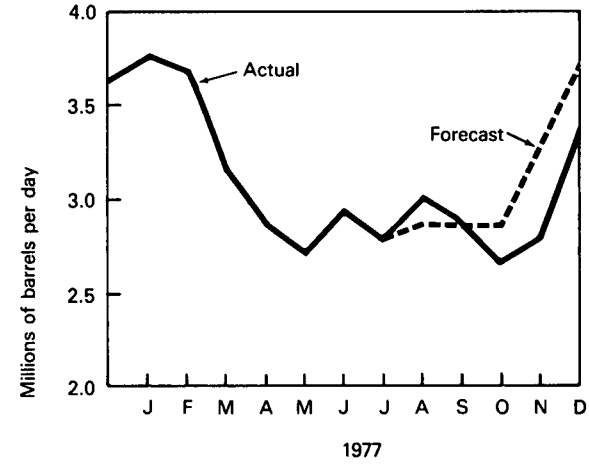
Domestic Demand for Motor Gasoline



Domestic Demand for Distillate Fuel Oil



Domestic Demand for Residual Fuel Oil



Sources: Actual–Monthly figures are based on Bureau of Mines data for December 1976 and January through April 1977, EIA data for May through November 1977, and API data for December 1977.

Forecast–The EIA forecast is shown for July through December 1977. See Explanatory Note 5 for discussion of basic assumptions of forecast.

Heating Degree-Days*

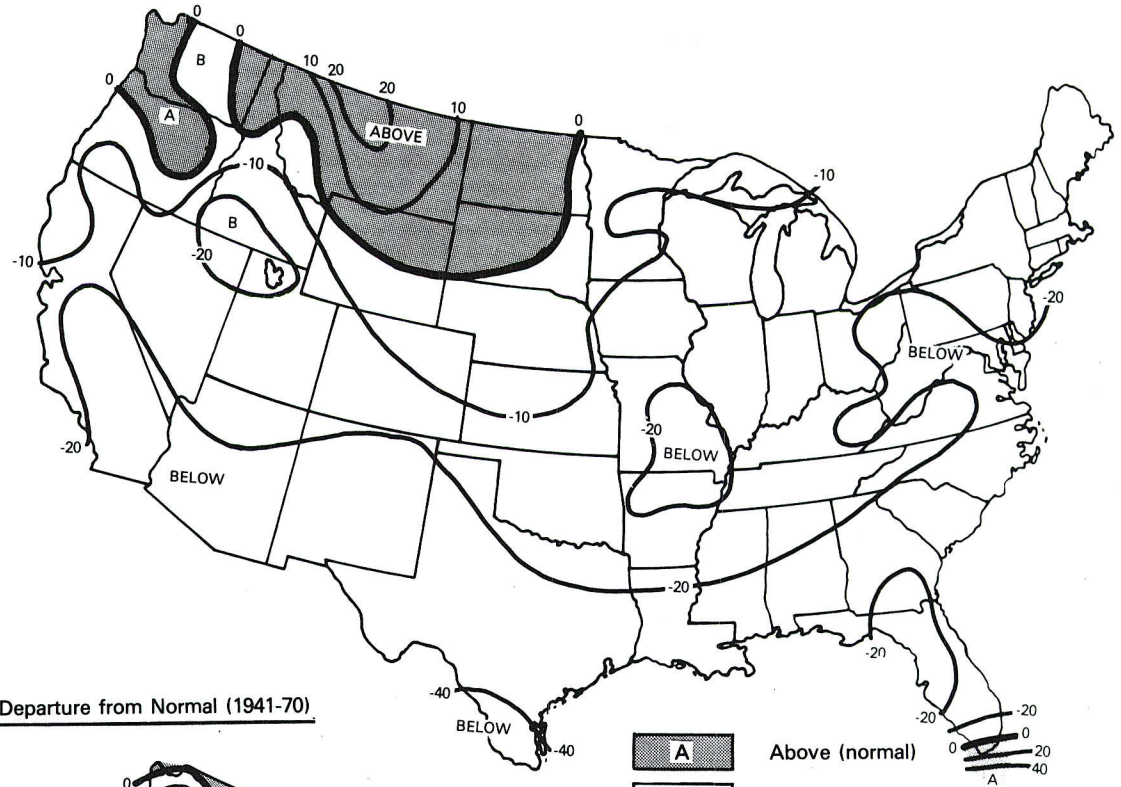
Petroleum Administration For Defense (PAD) Districts	January 2, 1978 through January 29, 1978				Cumulative July 1, 1977 through January 29, 1978			
	1977-78	1976-77**		Normal (1941-70)**	1977-78	1976-77**		Normal (1941-70)**
PAD District I	934.2	1,099.4	(−15.0)	836.6 (11.7)	2,655.5	3,199.5	(−17.0)	2,532.6 (4.9)
New England Conn., Maine, Mass., N.H., R.I., Vt.	1,102.2	1,236.0	(−10.8)	1,078.0 (2.2)	3,325.0	3,869.9	(−14.1)	3,334.9 (−0.3)
Middle Atlantic Del., Md., N.J., N.Y., Pa.	1,061.5	1,261.6	(−15.9)	980.3 (8.3)	3,107.2	3,717.5	(−16.4)	2,966.5 (4.7)
Lower Atlantic Fla., Ga., N.C., S.C., Va., W. Va.	668.9	795.1	(−15.9)	514.4 (30.0)	1,681.9	2,125.4	(−20.9)	1,527.8 (10.1)
PAD District II Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mo., Nebr., N. Dak., Ohio, Okla., S. Dak., Tenn., Wisc.	1,321.3	1,456.3	(−9.3)	1,099.4 (20.2)	3,709.6	4,352.5	(−14.8)	3,390.2 (9.4)
PAD District III Ala., Ark., La., Miss., N. Mex., Tex.	752.3	736.4	(2.2)	518.3 (45.1)	1,580.1	2,054.7	(−23.1)	1,410.7 (12.0)
PAD District IV Colo., Idaho, Mont., Utah, Wyo.	1,045.5	1,134.3	(−7.8)	1,073.8 (−2.6)	3,408.1	3,663.3	(−7.0)	3,605.6 (−5.5)
PAD District V Ariz., Calif., Nev., Oreg., Wash.	335.9	443.5	(−24.3)	480.6 (−30.1)	1,189.0	1,289.4	(−7.8)	1,575.8 (−24.5)
U.S. AVERAGE	**957.0**	**1,080.8**	**(−11.5)**	**840.2 (13.9)**	**2,683.3**	**3,181.3**	**(−15.7)**	**2,571.3 (4.4)**

*See Explanatory Note 13 for explanation of degree-days.
**Percentage change in parentheses.

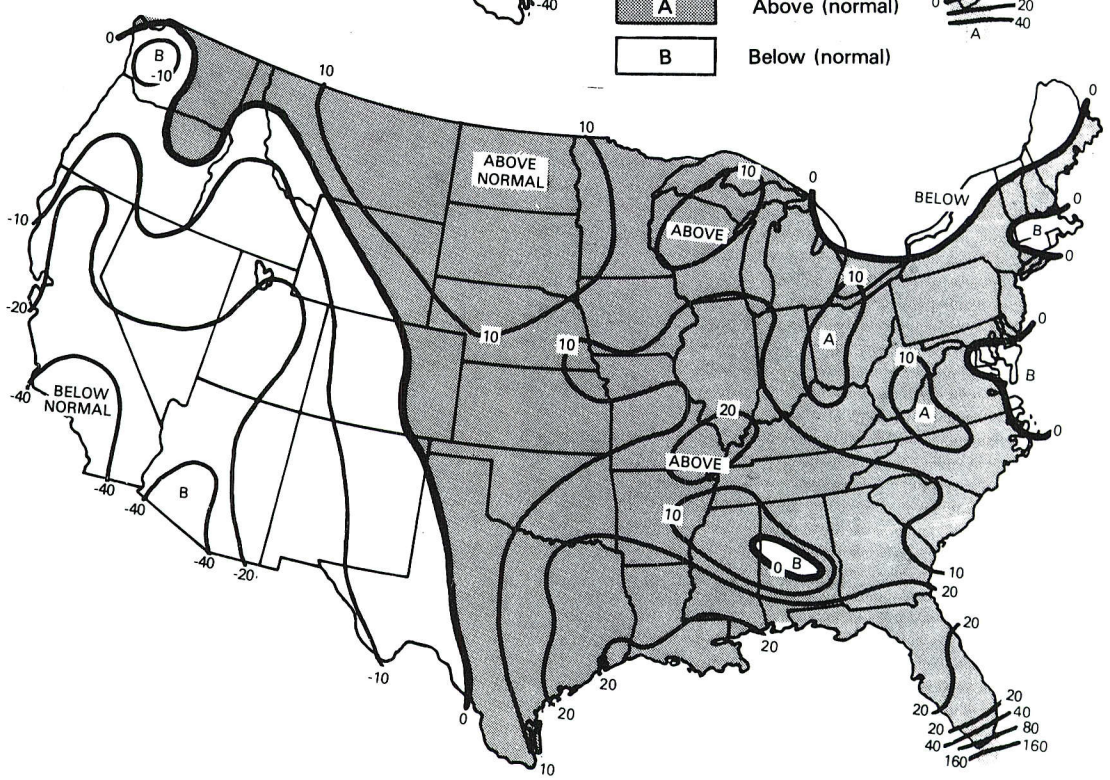
Heating Degree-Days (Continued)

Heating Degree-Days Accumulated from July 1, 1977, through January 29, 1978

Percent Departure from 1976-77



Percent Departure from Normal (1941-70)



Note: Above normal heating-days correspond to below normal temperatures.

Source: Department of Commerce—NOAA.

Oil and Gas Exploration and Development

A total of 44,894 wells were drilled in the United States during 1977, the largest number since 1959, and an increase of 12.9 percent from the number drilled in 1976. Gas wells increased 25.1 percent from 1976 to 11,363, the fifth consecutive record-breaking annual total. Oil wells were up 10.7 percent to 18,889. Dry holes numbered 14,642, a gain of 7.5 percent.

In spite of the growth in drilling activity, estimated proved reserves of crude oil and natural gas declined again during 1977. EIA estimated that on December 31, 1977, proved crude oil reserves amounted to 35.31 billion barrels compared with 36.14 billion at the end of 1976. Natural gas proved reserves were estimated at 214.9 trillion cubic feet on December 31, 1977, down from 222.6 trillion cubic feet 1 year earlier.

A recently released report of the American Petroleum Institute indicates that the average per foot cost of drilling and equipping wells increased 9.4 percent to $40.46 during 1976, a sharp drop from the 1973-75 average annual increase of 28.3 percent.

There was an average of 308 crews (281 land, 27 marine) engaged in oil and gas seismic exploration in the United States and its territorial waters during 1977, 17.6 percent more than in 1976, and the most since 1965. The current level, however, is still less than half the number of active crews during 1952, the peak year of domestic seismic exploration.

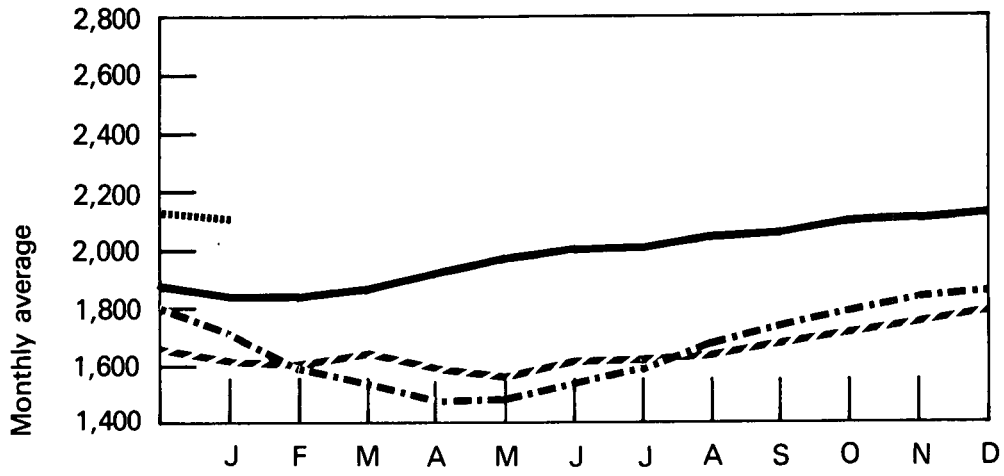
The oil and gas lease sale scheduled for January 31 in the Georges Bank area of the Outer Continental Shelf (OCS) off the coast of New England was indefinitely postponed by the Secretary of the Interior following a temporary injunction issued on environmental grounds on January 28 by the U.S. District Court in Boston. This was to be the second Atlantic OCS sale; the first occurred on August 17, 1976, in the Mid-Atlantic Baltimore Canyon area. Four other OCS sales are planned during 1978, three in the Gulf of Mexico and one in the South Atlantic Georgia Embayment area.

Oil and Gas Exploration and Development

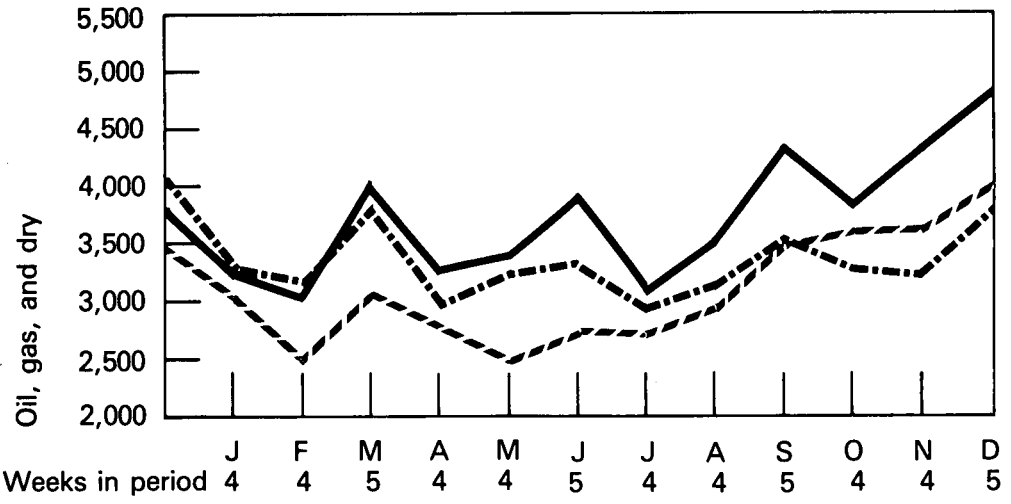
		Rotary Rigs in Operation		Exploratory and Development Wells Drilled*				Total Footage of Wells Drilled
		Monthly Average		Oil	Gas	Dry	Total	Thousands of feet
1972	**AVERAGE**	**1,107**	**TOTAL**	**11,306**	**4,928**	**11,057**	**27,291**	**134,602**
1973	**AVERAGE**	**1,194**	**TOTAL**	**9,902**	**6,385**	**10,305**	**26,592**	**136,391**
1974	**AVERAGE**	**1,475**	**TOTAL**	**12,784**	**7,240**	**11,674**	**31,698**	**150,551**
1975	January	1,615		1,299	655	1,040	2,994	13,189
	February	1,611		1,097	458	933	2,488	12,071
	March	1,651		1,341	658	1,091	3,090	15,472
	April	1,604		1,181	506	1,071	2,758	13,545
	May	1,592		1,100	451	891	2,442	12,054
	June	1,613		1,246	509	1,022	2,777	13,540
	July	1,616		1,229	557	920	2,706	12,545
	August	1,645		1,272	587	1,122	2,981	14,221
	September	1,699		1,504	831	1,165	3,500	15,636
	October	1,716		1,633	682	1,310	3,625	16,689
	November	1,757		1,619	776	1,270	3,665	15,788
	December	1,793		1,817	832	1,424	4,073	17,556
	AVERAGE	**1,660**	**TOTAL****	**16,408**	**7,580**	**13,247**	**37,235**	**174,434**
1976	January	1,710		1,465	772	1,055	3,292	14,517
	February	1,594		1,341	652	1,159	3,152	14,888
	March	1,540		1,726	821	1,301	3,848	18,126
	April	1,480		1,237	672	994	2,903	13,765
	May	1,496		1,501	658	1,104	3,263	14,196
	June	1,546		1,500	709	1,123	3,332	14,780
	July	1,597		1,312	730	916	2,958	13,716
	August	1,691		1,265	711	1,140	3,116	14,697
	September	1,744		1,474	909	1,199	3,582	16,777
	October	1,794		1,396	750	1,123	3,269	14,542
	November	1,840		1,291	698	1,222	3,211	14,642
	December	1,860		1,512	926	1,414	3,852	17,093
	AVERAGE	**1,656**	**TOTAL****	**17,059**	**9,085**	**13,621**	**39,765**	**181,780**
1977	January	1,850		1,391	732	1,096	3,219	14,517
	February	1,856		1,321	705	999	3,025	14,443
	March	1,887		1,817	958	1,297	4,072	19,400
	April	1,907		1,405	818	1,059	3,282	15,523
	May	1,982		1,382	877	1,150	3,409	16,702
	June	2,008		1,720	952	1,270	3,942	18,767
	July	2,023		1,304	724	1,022	3,050	14,529
	August	2,066		1,400	961	1,179	3,540	16,838
	September	2,084		1,924	1,105	1,288	4,317	19,333
	October	2,101		1,562	1,024	1,254	3,840	18,000
	November	2,113		1,785	1,091	1,447	4,323	19,537
	December	2,141		1,875	1,387	1,569	4,831	21,365
	AVERAGE	**2,001**	**TOTAL****	**18,889**	**11,363**	**14,642**	**44,894**	**210,038**
1978	January	2,128		NA	NA	NA	NA	NA

*Excludes service wells and stratigraphic and core tests.
**Totals reflect subsequent data revisions and therefore may not agree with cumulative monthly data.
NA=Not available.
Sources: Rotary Rigs: Hughes Tool Company "Rotary Rigs Running–By State;" Wells: American Petroleum Institute "Monthly Drilling Report" and "Quarterly Review of Drilling Statistics for the United States."

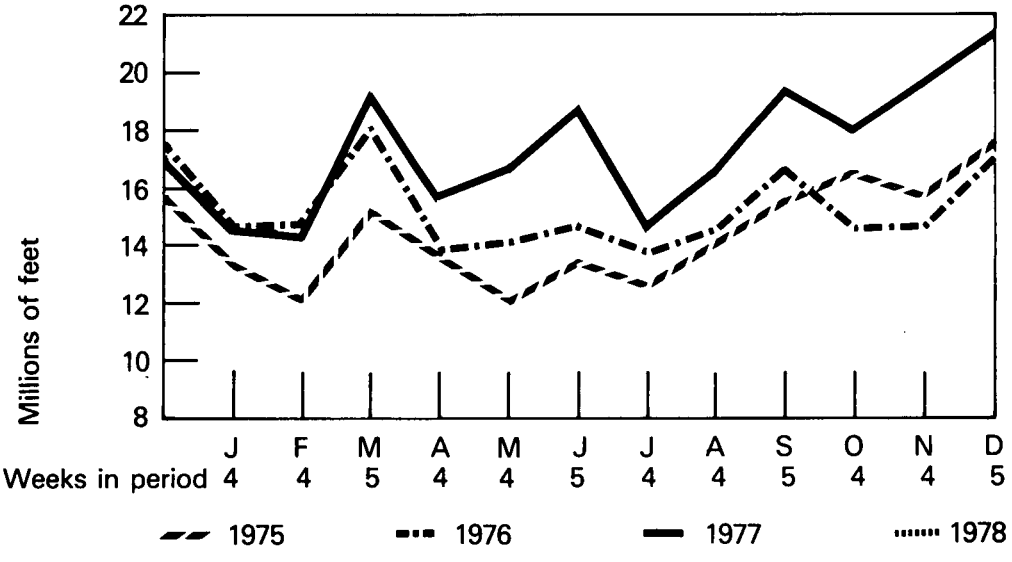
Rotary Rigs in Operation



Total Wells Drilled

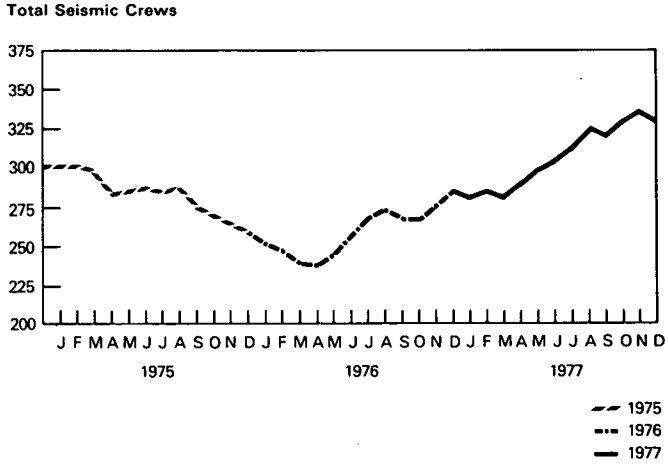


Total Footage of Wells Drilled



Oil and Gas Exploration and Development (Continued)

		Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
		Offshore	Onshore	Total	Offshore	Onshore	Total
		Monthly average			Monthly average		
1972	**Year**	**12**	**239**	**251**	**10,306**	**9,333**	**19,639**
1973	**Year**	**23**	**227**	**250**	**21,579**	**10,597**	**32,175**
1974	**Year**	**31**	**274**	**305**	**28,482**	**13,219**	**41,701**
1975	**Year**	**30**	**254**	**284**	**25,773**	**12,558**	**38,331**
1976	**Year**	**25**	**237**	**262**	**18,859**	**11,910**	**30,769**
1975	January	27	274	301			
	February	24	278	302			
	March	23	276	299			
	April	23	260	283			
	May	32	254	286			
	June	38	251	289			
	July	37	249	286			
	August	40	249	289			
	September	40	234	274			
	October	29	241	270			
	November	27	238	265			
	December	26	233	259			
1976	January	20	232	252			
	February	17	232	249			
	March	18	222	240			
	April	17	221	238			
	May	21	226	247			
	June	29	229	258			
	July	30	240	270			
	August	33	242	275			
	September	28	240	268			
	October	21	246	267			
	November	25	250	275			
	December	27	259	286			
1977	January	26	254	280			
	February	27	259	286			
	March	22	260	282			
	April	26	266	292			
	May	29	272	301			
	June	31	274	305			
	July	30	285	315			
	August	31	295	326			
	September	29	291	320			
	October	28	302	330			
	November	26	309	335			
	December	26	303	329			
	AVERAGE	**27**	**281**	**308**			



Source: Society of Exploration Geophysicists "Monthly Seismic Crew Count" and annual reports published in *Geophysics.*

Price

Motor Gasoline

The average selling price of regular gasoline at full service retail outlets increased 0.2 cent in December 1977 to 63.3 cents per gallon, the first monthly price increase since June 1977. The average price that retailers paid for regular gasoline decreased 0.1 cent to 54.3 cents per gallon. The net result was a 0.3-cent increase in the dealer margin to 9.0 cents per gallon. The average retail price for regular grade gasoline at self service outlets increased slightly (0.1 cent) to 58.2 cents per gallon; the dealer margin increased 0.2 cent to 4.2 cents per gallon.

Full service premium grade gasoline prices increased in December (by 0.2 cent) for the first time since May 1977. This price now stands at 69.1 cents per gallon. The average full service selling price for unleaded regular gasoline also increased 0.2 cent in December, to 67.2 cents per gallon. This was the first monthly price increase since July 1977.

Crude Oil

The average price paid by first purchasers for upper tier crude oil was $11.63 per barrel in November, up 21 cents from the price paid in October. The lower tier crude oil price increased by 1 cent in November to $5.24 per barrel. The average stripper oil price decreased 3 cents to $13.98 per barrel.

The average wellhead price of Alaskan North Slope (ANS) crude oil during November was $5.73 per barrel, down 93 cents from October. The price drop was necessary so that ANS wellhead prices could remain competitive with imported crude oil on the West Coast following the implementation of an interim measure allowing carriers to increase the Trans Alaska Pipeline tariff approximately $1.35 per barrel.

The average price paid by first purchasers for all domestic crude oil was $8.72 per barrel in November, unchanged from the October price.

The composite price of domestic and imported crude oil purchased by refiners (including transportation costs) was $12.19 per barrel in November, 7 cents more than the revised November price.

Natural Gas

The average price for natural gas sold to residential customers for heating use declined 0.9 cent in December to 237.3 cents per thousand cubic feet, the first price decrease since July 1975. Residential gas prices have increased a total of 29.0 cents per thousand cubic feet during the past 12 months.

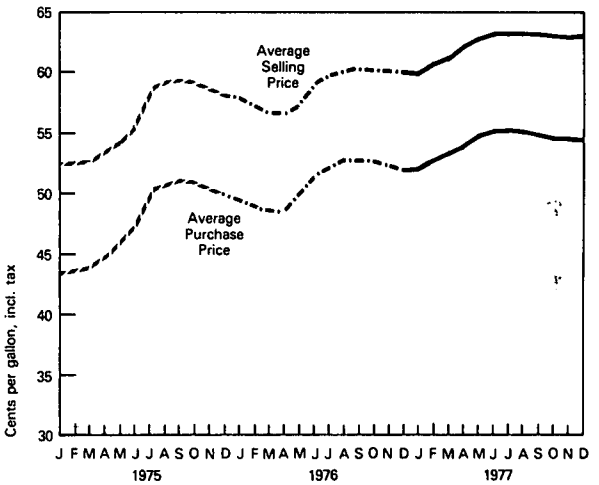
Part 9 Price

Motor Gasoline

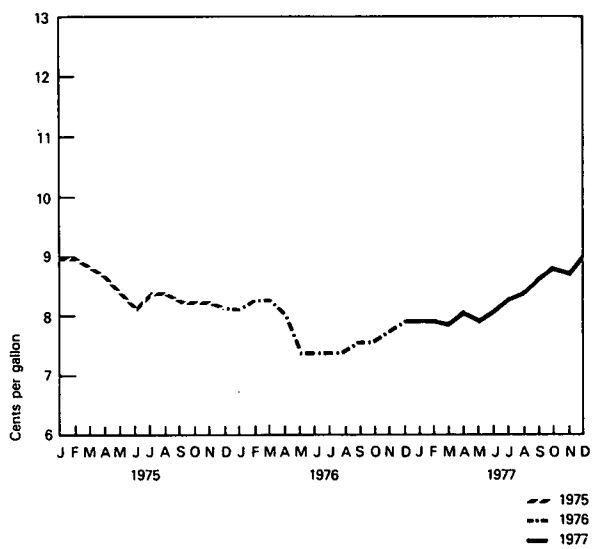
Regular Gasoline at Full Service Retail Outlets

		Average Selling Price	Average Purchase Price	Average Dealer Margin
		Cents per gallon, including tax*		
1974	**AVERAGE**	**52.8**	**43.1**	
1975	January	52.4	43.4	9.0
	February	52.5	43.5	9.0
	March	52.6	43.8	8.8
	April	53.5	44.9	8.6
	May	54.3	46.0	8.3
	June	55.6	47.5	8.1
	July	58.7	50.3	8.4
	August	59.2	50.8	8.4
	September	59.3	51.1	8.2
	October	58.9	50.7	8.2
	November	58.4	50.2	8.2
	December	58.0	49.9	8.1
	AVERAGE	**56.2**	**47.8**	
1976	January	57.7	49.6	8.1
	February	57.1	48.8	8.3
	March	56.6	48.3	8.3
	April	56.6	48.6	8.0
	May	57.4	50.0	7.4
	June	59.0	51.6	7.4
	July	59.6	52.2	7.4
	August	60.1	52.7	7.4
	September	60.2	52.6	7.6
	October	60.2	52.6	7.6
	November	60.0	52.2	7.8
	December	59.9	52.0	7.9
	AVERAGE	**58.7**	**51.0**	
1977	January	59.9	52.0	7.9
	February	60.7	52.8	7.9
	March	61.3	53.5	7.8
	April	62.2	54.1	8.1
	May	62.9	55.0	7.9
	June	63.4	55.3	8.1
	July	63.4	55.1	8.3
	August	63.4	55.0	8.4
	September	63.3	54.7	8.6
	October	63.2	54.4	8.8
	November	63.1	54.4	8.7
	December	63.3	54.3	9.0

Average Retail Prices for Regular



Average Margins for Regular



*To derive prices excluding taxes, 12.2 cents per gallon may be deducted for 1974 and 1975, and 12.5 cents per gallon may be deducted for 1976 and 1977.
Sources: FEA for 1974; Lundberg Survey, Inc., for January 1975 forward.

Regular Gasoline at Self Service Retail Outlets

		Average Selling Price	Average Dealer Margin
		Cents per gallon, including tax	
1975	November	55.4	5.5
	December	54.9	5.3
1976	January	54.7	5.4
	February	53.8	5.4
	March	53.2	5.3
	April	53.2	4.9
	May	54.4	4.5
	June	56.3	4.8
	July	56.6	4.6
	August	56.7	4.4
	September	56.5	4.3
	October	56.5	4.4
	November	56.4	4.5
	December	56.1	4.5
1977	January	56.2	4.5
	February	57.1	4.4
	March	57.7	4.4
	April	58.4	4.4
	May	58.9	4.2
	June	59.3	4.3
	July	59.2	4.4
	August	58.8	4.2
	September	58.5	4.2
	October	58.2	4.2
	November	58.1	4.0
	December	58.2	4.2

Source: Lundberg Survey, Inc.

Motor Gasoline (Continued)

Average Selling Prices for Premium and Unleaded Gasoline at Full Service Retail Outlets

		Premium	Unleaded (Regular)
		Cents per gallon, including tax	
1975	January	57.1	NA
	February	57.3	56.1
	March	57.5	56.2
	April	58.2	57.1
	May	59.0	57.9
	June	60.3	58.8
	July	63.1	61.5
	August	63.6	62.0
	September	63.8	62.1
	October	63.4	62.1
	November	63.2	62.0
	December	62.9	61.4
1976	January	62.7	61.2
	February	62.1	60.6
	March	61.6	60.1
	April	61.6	60.4
	May	62.4	61.1
	June	63.9	62.9
	July	64.6	63.2
	August	65.2	63.9
	September	65.3	64.0
	October	65.2	64.0
	November	65.2	63.9
	December	65.0	63.9
1977	January	65.2	64.0
	February	66.1	65.0
	March	66.8	65.4
	April	67.6	66.1
	May	68.4	66.7
	June	68.9	67.2
	July	68.9	67.3
	August	68.9	67.0
	September	68.9	67.0
	October	68.9	67.0
	November	68.9	67.0
	December	69.1	67.2

NA=Not available.
Source: Lundberg Survey, Inc.

Average Selling Prices and Margins for Major and Independent Retail Dealers—December 1977

Regular Gasoline—Full Service

Cents per gallon, including tax

	Selling Price	Margin
Major	64.4	9.3
Independent	58.4	7.0
National Average	63.3	9.0

Regular Gasoline—Self Service

	Selling Price	Margin
Major	59.1	4.1
Independent	55.8	4.5
National Average	58.2	4.2

Premium Gasoline—Full Service

	Selling Price	Margin
Major	69.9	10.4
Independent	63.5	9.1
National Average	69.1	10.2

Premium Gasoline—Self Service

	Selling Price	Margin
Major	66.9	7.4
Independent	61.6	7.3
National Average	65.8	7.4

Unleaded Gasoline (Regular)—Full Service

Cents per gallon, including tax

	Selling Price	Margin
Major	68.1	10.2
Independent	62.0	8.1
National Average	67.2	9.9

Unleaded Gasoline (Regular)—Self Service

	Selling Price	Margin
Major	64.8	6.9
Independent	59.8	5.9
National Average	63.6	6.7

Unleaded Gasoline (Premium)—Full Service

	Selling Price
Major	71.6
Independent	63.6
National Average	70.6

Average Regional Selling Prices and Dealer Margins for Regular Gasoline at Full Service Outlets—December 1977

Region	Selling Price	Margin
	Cents per gallon, including tax	
1A New England	61.2	6.6
1B Mid-Atlantic	63.8	7.9
1C Lower Atlantic	63.1	9.0
2 Mid-Continent	63.4	8.8
3 Gulf Coast	61.7	11.1
4 Rocky Mountain	64.0	10.2
5 West Coast	65.1	8.7
National Average	**63.3**	**9.0**

Source: Lundberg Survey, Inc.

Diesel Fuel

Average Selling Prices and Margins for No. 2 Diesel Fuel*

		Selling Price		Margin	
		Truckstops	Service Stations	Truckstops	Service Stations
		Cents per gallon, including tax			
1975	January	NA	50.6	NA	6.8
	February	49.7	50.2	7.0	7.3
	March	50.1	50.2	7.5	7.4
	April	50.5	50.6	7.4	7.5
	May	50.3	51.0	7.0	7.7
	June	51.4	51.4	7.5	7.9
	July	51.2	52.4	7.3	8.2
	August	52.1	52.6	8.1	8.9
	September	52.1	52.7	7.4	8.7
	October	51.8	53.0	6.2	7.7
	November	52.0	53.0	5.3	6.5
	December	51.7	52.4	5.3	6.7
1976	January	52.0	52.5	5.6	7.2
	February	52.1	52.0	6.0	7.3
	March	51.4	52.4	5.6	7.1
	April	51.1	52.8	5.8	7.8
	May	51.4	52.9	6.9	7.8
	June	52.0	53.3	7.0	7.7
	July	52.1	53.1	6.4	7.1
	August	52.3	53.2	6.0	7.0
	September	52.2	53.1	5.7	6.8
	October	52.4	53.1	5.8	6.5
	November	52.9	53.3	6.1	6.4
	December	53.1	53.5	5.7	5.9
1977	January	53.9	54.3	4.9	5.3
	February	55.3	55.6	5.5	5.9
	March	56.0	56.4	5.7	6.2
	April	56.6	56.7	6.5	6.7
	May	56.9	57.1	6.5	6.8
	June	57.3	57.4	7.1	7.2
	July	57.3	57.3	7.2	7.2
	August	57.0	57.2	6.7	7.2
	September	56.8	57.3	6.5	7.1
	October	56.9	57.2	6.4	6.9
	November	56.9	57.3	6.5	6.7
	December	57.4	57.5	6.6	6.9

*See Explanatory Note 14.
NA=Not available.
Source: Lundberg Survey, Inc.

Average Selling Prices and Margins for Major and Independent No. 2 Diesel Fuel Retail Dealers–December 1977

Cents per gallon, including tax

Truckstops

	Selling Price	Margin
Major	58.4	5.9
Independent	56.8	7.3
National Average	57.4	6.6

Service Stations

	Selling Price	Margin
Major	59.0	5.9
Independent	56.4	7.5
National Average	57.5	6.9

Source: Lundberg Survey, Inc.

No. 1 Diesel Fuel Prices

		Wholesale	Retail
		Cents per gallon, excluding tax	
1975	July	30.1	37.7
	August	30.8	38.2
	September	31.5	36.9
	October	33.1	35.4
	November	33.3	35.0
	December	34.2	35.5
1976	January	33.8	37.1
	February	33.6	35.3
	March	33.9	34.8
	April	34.2	35.4
	May	34.5	37.5
	June	34.7	37.9
	July	35.0	38.1
	August	36.0	38.2
	September	35.3	37.7
	October	36.3	36.4
	November	35.7	37.0
	December	35.5	36.7
1977	January	37.1	37.8
	February	38.4	39.2
	March	39.0	39.6
	April	39.7	40.6
	May	39.5	41.7
	June	40.2	41.2
	July	40.3	41.3
	August	40.9	41.3
	September	39.0	41.1
	October	40.1	39.8
	November*	40.9	40.4

*Preliminary.
NA=Not available.
Note: Wholesale refers to the price of diesel fuel sold to other refiners and resellers, including branded jobbers, unbranded jobbers, and commercial accounts. Retail refers to the price at which company-owned and -operated retail dealers sell to consumers.
Source: FEA Form P302-M-1 "Petroleum Industry Monthly Report for Product Prices."

Heating Oil

Residential Heating Oil Prices

		Average Selling Price*	Average Purchase Price*	Average Dealer Margin*
		Cents per gallon		
1974	**AVERAGE**	**34.7**	**26.9**	
1975	January	37.4	29.1	8.3
	February	37.0	28.7	8.3
	March	36.6	28.4	8.2
	April	36.1	29.3	6.8
	May	36.7	30.0	6.7
	June	37.1	30.3	6.8
	July	37.2	30.6	6.6
	August	38.0	31.2	6.8
	September	38.4	31.0	7.4
	October	39.3	31.8	7.5
	November	39.4	32.1	7.3
	December	40.1	32.4	7.7
	AVERAGE	**37.7**	**31.2**	
1976	January	40.1	32.4	7.7
	February	40.1	32.4	7.7
	March	39.4	NA	NA
	April	39.0	NA	NA
	May	39.0	NA	NA
	June	39.3	NA	NA
	July	39.3	NA	NA
	August	39.8	NA	NA
	September	40.2	NA	NA
	October	40.7	NA	NA
	November	41.9	NA	NA
	December	43.0	NA	NA
1977	January	44.4	NA	NA
	February	45.3	NA	NA
	March	45.8	NA	NA
	April	45.9	NA	NA
	May	45.7	NA	NA
	June	45.7	NA	NA
	July	45.8	NA	NA
	August	46.0	NA	NA
	September	46.2	NA	NA
	October	46.7	NA	NA

*Average selling prices, purchase prices, and dealer margins represent sales for residential heating oil only.
NA=Not available.
Sources: 1974 through February 1976–Form CLC-92 "No. 2 Heating Oil Monthly Price Adjustment Report;" June 1976 forward–FEA Form P112-M-1 "No. 2 Heating Oil Supply/Price Monitoring Report."

Residential Heating Oil Prices by Region

		New England	Mid-Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific
					Cents per gallon					
1975	January	40.2	38.9	36.5	33.2	34.7	34.0	NA	37.5	38.0
	February	39.2	38.4	36.8	33.4	34.7	33.3	NA	36.6	37.7
	March	38.0	37.8	36.4	34.2	33.2	34.3	NA	NA	36.8
	April	37.4	36.8	36.8	33.2	33.7	34.5	NA	38.9	36.8
	May	37.6	36.9	36.4	35.1	34.7	35.4	NA	37.0	37.8
	June	37.7	37.7	36.4	35.8	NA	35.9	NA	37.6	37.6
	July	37.9	36.9	36.9	36.4	34.7	36.8	NA	NA	38.8
	August	38.8	38.2	37.9	36.3	35.7	36.3	NA	41.3	39.3
	September	39.4	38.7	37.6	36.5	35.7	36.8	NA	38.9	40.1
	October	40.3	39.9	38.3	37.4	36.6	37.9	NA	39.0	41.0
	November	41.0	39.6	38.7	37.9	NA	38.1	NA	40.2	41.3
	December	41.0	41.1	39.0	38.5	34.1	38.0	NA	44.8	40.9
1976	January	41.5	40.0	39.6	38.3	37.8	38.2	35.0	41.2	41.6
	February	41.4	40.3	39.4	38.0	37.7	38.3	34.4	41.0	42.1
	March	41.5	39.8	39.2	37.0	36.7	37.6	34.5	40.4	41.9
	April	41.2	40.0	38.9	37.1	35.9	37.3	34.6	40.3	40.8
	May	41.1	39.7	38.2	37.1	35.6	37.3	34.0	40.4	42.1
	June	40.9	41.1	39.1	37.7	37.2	37.3	34.3	40.3	42.8
	July	40.7	39.8	39.1	37.9	36.9	37.3	34.4	40.1	45.0
	August	41.5	40.3	39.5	38.2	37.2	37.7	34.3	39.7	44.7
	September	41.9	40.8	37.5	38.3	38.0	38.8	34.8	41.1	46.0
	October	42.3	41.4	40.4	39.0	38.5	38.7	35.1	42.1	46.0
	November	43.3	42.4	42.1	40.1	39.8	39.5	36.3	42.8	46.5
	December	44.4	43.6	42.9	41.5	41.0	41.9	36.3	42.7	43.8
1977	January	45.8	44.9	44.2	43.2	43.1	43.0	36.9	43.4	44.6
	February	46.6	45.8	45.7	43.9	43.4	44.0	38.8	44.2	45.2
	March	47.1	46.3	45.5	44.4	43.8	44.6	40.2	44.7	45.9
	April	47.2	46.5	45.5	44.8	43.3	44.2	40.8	44.8	46.4
	May	47.0	46.4	45.6	44.7	43.7	43.7	40.7	44.8	46.5
	June	47.1	46.4	45.7	44.7	44.0	43.3	41.2	45.8	46.8
	July	47.1	46.4	45.7	44.7	44.2	44.2	41.2	44.2	47.9
	August	47.4	46.6	45.6	44.7	43.7	44.5	41.0	44.9	48.2
	September	47.7	46.7	45.8	45.0	44.2	44.9	41.1	44.9	47.2
	October	48.0	47.3	46.4	45.3	43.9	45.4	41.1	45.4	47.4

NA=Not available.

Note: Data for West South Central Region are based on a sample of less than four reporting firms. Average regional distributor purchase prices for heating oil for the period January 1975 through February 1976 are published on page 70 of the October 1977 issue of the *Monthly Energy Review.*

Sources: January through December 19 .5—Form CLC-92 "No. 2 Heating Oil Monthly Price Adjustment Report;" January 1976 forward—FEA Form P112-M-1 "No. 2 Heating Oil Supply/Price Monitoring Report."

RESIDUAL FUEL OIL
(Dollars per barrel)

		NO. 5		NO. 6								BUNKER "C"		TOTAL
				0.0 to 0.3 percent sulfur		0.31 to 1.0 percent sulfur		Greater than 1.0 percent sulfur		Total				
		Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	
1975	July	10.19	11.28	11.57	12.86	10.90	12.05	10.25	10.59	10.66	11.70	7.88	10.54	11.27
	August	10.19	11.04	11.53	13.22	10.85	12.34	9.72	10.53	10.49	11.89	8.76	10.43	11.32
	September	10.58	11.07	11.75	12.94	10.63	11.65	9.87	10.52	10.48	11.52	8.93	10.29	11.09
	October	10.15	11.12	11.50	12.98	10.37	12.09	9.75	10.38	10.30	11.69	8.88	10.31	11.13
	November	10.90	11.27	12.21	12.96	10.33	12.03	9.90	10.34	10.47	11.68	9.01	10.43	11.24
	December	10.83	11.64	11.89	12.87	10.37	11.83	9.65	10.06	10.24	11.42	9.07	10.15	10.97
1976	January	11.08	11.63	12.13	12.39	10.62	11.61	9.57	10.23	10.53	11.35	8.75	10.35	11.02
	February	10.55	11.57	12.42	12.78	10.87	11.84	9.70	10.35	10.73	11.52	8.53	10.27	11.15
	March	10.41	11.89	12.36	12.81	11.05	11.80	9.56	10.21	10.74	11.43	8.59	10.35	11.12
	April	10.21	11.58	11.44	12.34	10.86	11.77	9.53	10.28	10.38	11.43	8.66	10.12	11.02
	May	9.87	11.49	11.71	11.87	10.80	11.40	9.47	9.89	10.11	10.95	8.75	10.65	10.63
	June	9.91	11.23	11.71	12.24	10.33	11.36	9.73	10.03	10.12	11.04	8.57	10.10	10.70
	July	10.06	11.70	11.73	12.12	10.22	11.36	9.83	10.04	10.25	11.04	9.23	10.34	10.74
	August	9.78	11.48	11.85	12.29	10.45	11.46	9.61	10.22	10.20	11.20	8.93	9.98	10.82
	September	10.36	11.37	11.85	12.50	10.33	11.55	10.04	10.28	10.35	11.30	9.22	10.05	10.90
	October	10.40	11.86	11.96	12.85	11.08	11.99	10.00	10.73	10.75	11.82	9.57	10.81	11.38
	November	11.04	12.04	12.41	13.15	11.57	12.21	10.40	10.99	11.16	11.95	10.31	10.88	11.61
	December	11.49	12.64	13.18	13.29	11.80	12.76	11.04	11.48	11.87	12.44	9.95	11.24	12.16
1977	January	12.00	13.20	14.06	14.34	12.79	13.68	11.51	12.32	12.45	13.32	10.34	11.89	12.94
	February	12.28	13.63	14.00	14.60	12.91	14.06	12.04	12.74	12.69	13.71	10.24	12.00	13.21
	March	12.15	13.76	14.00	14.58	13.47	14.51	11.62	12.70	12.68	13.84	9.97	11.74	13.27
	April	11.62	13.26	12.88	14.63	13.05	14.10	11.27	12.50	12.04	13.61	10.14	11.75	12.92
	May	11.54	12.69	13.56	14.48	11.90	13.73	11.05	12.15	11.64	13.42	9.97	11.41	12.67
	June	11.25	13.10	13.12	14.28	11.88	13.27	11.10	11.93	11.72	13.02	10.30	11.39	12.47
	July	11.24	12.67	13.31	14.38	11.73	13.12	11.02	12.06	11.62	13.01	10.91	11.44	12.47
	August	11.61	12.75	13.32	14.15	11.83	13.08	11.89	12.01	12.06	13.00	11.08	11.58	12.56
	September	11.70	R12.84	R13.35	14.33	11.79	13.11	11.78	12.19	12.03	12.94	11.20	R11.72	12.59
	October*	11.65	R13.09	R13.37	14.28	R11.68	R13.14	R11.77	12.31	12.10	13.15	R11.05	11.82	R12.63
	November*	11.52	13.16	12.87	14.24	11.64	12.96	11.54	12.15	11.76	12.96	10.68	11.62	12.41

*Preliminary.
R=Revised data.
Note: Wholesale refers to the price of residual fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and other residual dealers. Retail refers to the price at which residual fuel oil is sold to ultimate consumers such as utility, industrial, institutional, commercial, and residential accounts.
Source: FEA Form P302-M-1 "Petroleum Industry Monthly Report for Product Prices."

Aviation Fuels

AVIATION FUELS
(Cents per gallon)

		Aviation Gasoline		Naphtha-Type*	Kerosene-Type	
		Wholesale	Retail	Retail	Wholesale	Retail
1975	July	40.6	40.6	31.4	29.8	29.2
	August	41.3	42.1	30.8	32.1	29.5
	September	41.2	39.9	30.3	31.5	29.6
	October	41.1	41.2	30.2	31.7	30.0
	November	39.7	42.1	30.6	31.6	30.2
	December	40.9	40.9	30.7	31.9	30.5
1976	January	41.4	41.2	31.0	30.6	31.3
	February	41.2	42.0	31.1	31.1	31.2
	March	41.1	41.9	30.9	31.2	30.7
	April	41.2	42.5	30.5	31.9	30.5
	May	42.1	43.1	30.6	33.0	30.2
	June	42.6	42.3	31.5	32.1	30.3
	July	43.6	44.2	31.3	32.9	30.8
	August	43.7	44.1	31.7	32.1	31.1
	September	43.6	44.7	32.1	32.5	31.4
	October	43.6	43.8	32.1	32.5	31.9
	November	43.4	43.9	32.8	33.4	32.4
	December	43.5	43.7	32.9	34.7	32.2
1977	January	43.4	44.1	33.4	34.6	33.2
	February	44.7	45.0	34.0	37.1	34.1
	March	45.0	45.7	34.5	35.9	34.6
	April	46.0	47.2	34.3	35.9	34.9
	May	46.6	47.8	34.3	36.3	35.1
	June	46.7	47.6	35.1	36.8	35.7
	July	47.0	48.7	35.6	37.1	35.8
	August	47.9	50.1	35.5	36.6	36.0
	September	47.9	49.1	R35.6	37.1	37.0
	October**	48.1	49.0	R35.7	37.3	37.3
	November**	48.3	48.2	35.9	37.9	37.5

*Nearly all naphtha-type fuels are sold directly to the Defense Fuel Supply Center. Consequently, wholesale prices are not applicable.
**Preliminary.
R=Revised data.
Note: Wholesale refers to the price of aviation fuel sold to refiners and resellers, including bulk plants, branded and unbranded jobbers, and aviation fuel distributors. Retail refers to the price of aviation fuel sold to ultimate consumers, including commercial airline and military accounts.
Source: FEA Form P302-M-1 "Petroleum Industry Monthly Report for Product Prices."

Propane and Butane

Wholesale Propane and Butane Prices*

		Propane	Butane
		Cents per gallon	
1975	July	17.9	17.5
	August	18.8	18.2
	September	19.8	19.7
	October	19.9	20.4
	November	20.2	20.5
	December	20.6	20.2
	AVERAGE (6 months)	**19.7**	**19.4**
1976	January	21.2	20.6
	February	21.0	21.6
	March	20.1	21.3
	April	19.4	20.9
	May	19.0	21.6
	June	19.5	21.4
	July	19.9	22.2
	August	20.2	22.3
	September	20.6	22.0
	October	20.9	22.7
	November	21.4	22.4
	December	22.1	23.6
	AVERAGE	**20.6**	**21.9**
1977	January	22.9	23.0
	February	24.0	24.3
	March	23.7	24.9
	April	23.6	24.2
	May	24.5	25.8
	June	24.5	25.6
	July	24.9	26.2
	August	25.5	26.1
	September	25.9	27.4
	October**	26.8	26.3
	November**	26.5	25.8

*Wholesale refers to the price at which refiners, resellers, retailers, and gas plants sell to one another, including sales to agricultural and industrial accounts.
**Preliminary data.
Source: FEA Form P302-M-1.

Domestic Crude Petroleum Prices at the Wellhead[1]

		Old	New	Domestic Average
		Dollars per barrel		
1974	**AVG.**	**5.03**	**10.13**	**6.87**
1975	January	5.05	11.28	7.61
	February	5.03	11.39	7.47
	March	5.03	11.47	7.57
	April	5.03	11.64	7.55
	May	5.03	11.69	7.52
	June	5.03	11.73	7.49
	July	5.03	12.30	7.75
	August	5.03	12.38	7.73
	September	5.04	12.46	7.75
	October	5.03	12.73	7.83
	November	5.03	12.89	7.80
	December	5.03	12.95	7.93
	AVG.	**5.03**	**12.03**	**7.67**
1976	January	5.02	12.99	8.63

		Lower Tier[2]	Upper Tier[2]	Domestic Average
		Dollars per barrel		
1976	February	5.05	11.47	7.87
	March	5.07	11.39	7.79
	April	5.07	11.52	7.86
	May	5.13	11.55	7.89
	June	5.15	11.60	7.99
	July	5.19	11.59	8.04
	August	5.18	11.62	8.03

		Lower Tier[2]	Upper Tier[2]	Actual Stripper[3]	Actual Domestic Average[4]	Imputed Domestic Average[4]
		Dollars per barrel				
1976	September	5.17	11.65	13.21	8.39	8.19
	October	5.15	11.62	13.35	8.46	8.23
	November	5.17	11.62	13.31	8.62	8.40
	December	5.17	11.64	13.30	8.62	8.40
1977	January	5.17	11.44	13.27	8.50	8.28
	February	5.18	11.39	13.32	8.57	8.33
	March	5.15	11.03	13.31	8.45	8.19
	April	5.15	10.97	13.28	8.40	8.14
	May	5.18	10.98	13.26	8.49	8.23
	June	5.16	10.92	13.28	8.44	8.17

	Lower Tier[2]	Upper Tier[2]	Actual fitripper[3]	Alaskan North Slope[5]	Naval Petroleum fieserves[6]	Actual Domestic Average[4]	Imputed Domestic Average[4]
July	5.16	11.00	13.31	6.84	12.21	8.48	8.21
August	5.18	10.93	13.95	6.91	12.29	8.62	8.25
September	5.20	11.20	14.01	6.98	12.33	8.63	8.26
October	R5.23	11.42	14.01	6.66	12.38	8.72	8.36
November[7]	5.24	11.63	13.98	5.73	12.40	8.72	8.35

[1] See Explanatory Note 15.
[2] See Definitions.
[3] Stripper oil was exempt from price controls beginning September 1, 1976. From February through August 1976 stripper oil was subject to upper tier price ceilings.
[4] The actual domestic average price represents the average price at which all domestic crude oil is purchased. The imputed domestic average price is the average price used to establish ceiling prices for domestic crude oil in accordance with the provisions of the Energy Conservation and Production Act. It is calculated as the weighted average of lower tier, upper tier, and an imputed stripper crude oil price. The imputed stripper crude oil price is equal to $11.63 per barrel plus the difference between the composite price of crude oil in August 1976 (excluding stripper oil) and the composite price of crude oil in the month of measurement (excluding stripper oil).
[5] Alaskan North Slope (ANS) crude oil prices are treated as Upper Tier for determining the applicable wellhead ceiling prices. ANS is included in both the Actual Domestic Average and the Imputed Domestic Average price determinations.
[6] The Naval Petroleum Reserves (NPR) are exempt from pricing regulations but have been reported here as Upper Tier prior to July 1977. NPR is included in the Actual Domestic Average price determinations, but not in the Imputed Domestic Average.
[7] Preliminary data based on early reports.
Sources: 1974 through January 1976—Form FEA-90 "Crude Petroleum Production Monthly Report;" February 1976 forward—FEA Form P124-M-O "Domestic Crude Oil Purchasers Report."

Crude Oil (Continued)

Percentages of Domestic Production Sold at the Wellhead

		Old Oil	New Oil	Released	Stripper
1975	January*	58	19	10	12
	February*	61	17	9	12
	March	60	18	10	12
	April	61	17	9	12
	May	62	17	8	13
	June	63	16	8	13
	July	62	16	8	14
	August	63	16	7	14
	September*	63	15	7	14
	October	63	16	7	14
	November	64	15	7	14
	December	63	16	7	14
	AVERAGE	**62**	**16**	**8**	**13**
1976	January	54	21	10	15

		Lower Tier	Upper Tier		
	February	56	30	–	14
	March	57	29	–	14
	April	57	29	–	14
	May	57	29	–	14
	June	56	29	–	15
	July	56	30	–	14
	August	56	30	–	14

		Lower Tier	Upper Tier	Stripper
	September	53.4	33.7	12.9
	October	52.4	34.7	12.9
	November	49.9	36.6	13.4
	December	50.1	36.4	13.6
1977	January	50.6	36.7	12.7
	February	49.5	37.2	13.3
	March	49.2	37.2	13.6
	April	49.5	36.9	13.6
	May	48.4	37.6	14.0
	June	48.8	37.0	14.2

	Lower Tier	Upper Tier	Stripper	Alaskan North Slope**	Naval Petroleum Reserve**
July	46.75	R36.59	13.30	2.58	0.75
August	43.31	36.65	13.32	5.79	0.91
September	42.78	34.07	13.14	9.06	0.91
October	42.23	R34.58	12.92	9.09	1.15
November***	41.43	34.65	13.01	9.83	1.06

*Totals do not add to 100 due to rounding.
**See footnotes 5 and 6 of previous table.
***Preliminary.
Sources: January 1975 through January 1976–Form FEA-90 "Crude Petroleum Production Monthly Report;" February 1976 through August 1976–FEA Form P124-M-0 "Domestic Crude Oil Purchasers Report" for Lower Tier percentages and EIA estimates for Upper Tier percentages; September 1976 forward–FEA Form P124-M-0 "Domestic Crude Oil Purchasers Report."

		Entitlement Price* (Dollars)	National Old Oil Supply Ratio*	Crude Oil Entitlement Benefit* (Dollars)
1974	November	5.00	.411	2.06
	December	5.00	.400	2.00
1975	January	6.00	.352	2.11
	February	6.75	.373	2.52
	March	7.31	.359	2.62
	April	7.29	.390	2.84
	May	7.39	.383	2.83
	June	7.82	.360	2.82
	July	8.13	.354	2.88
	August	8.31	.352	2.93
	September	8.31	.355	2.95
	October	8.62	.356	3.07
	November	8.94	.343	3.07
	December	8.55	.363	3.10
1976	January	8.09	.309	2.50
			National Domestic Crude Oil Supply Ratio	
1976	February	7.85	.352	2.76
	March	7.89	.358	2.82
	April	7.85	.356	2.79
	May	7.82	.356	2.78
	June	7.91	.328	2.59
	July	7.80	.314	2.45
	August	8.02	.319	2.56
	September	7.80	.296	2.31
	October	7.84	.293	2.30
	November	7.90	.273	2.16
	December	7.97	.263	2.10
1977	January	8.30	.266	2.21
	February	8.53	.267	2.28
	March	8.71	.273	2.38
	April	8.69	.285	2.48
	May	8.77	.280	2.46
	June	8.65	.273	2.36
	July	8.77	.258	2.26
	August	8.65	.266	2.30
	September	8.75	.250	2.19
	October	8.75	.250	2.19
	November	8.75	.239	2.09

*See Definitions.
Source: DOE.

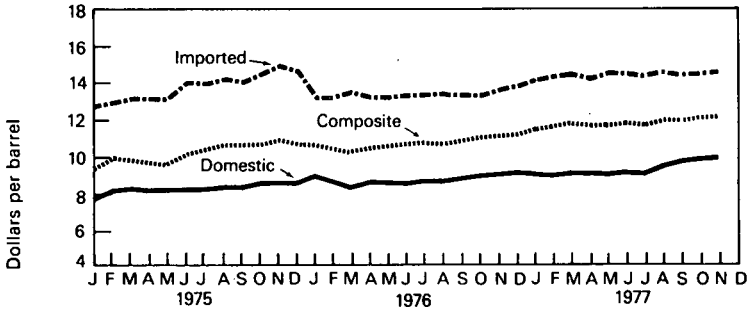
Crude Oil (Continued)

Refiner Acquisition Cost of Crude Petroleum*

		Domestic	Imported	Composite
		Dollars per barrel		
1974	**AVERAGE**	**7.18**	**12.52**	**9.07**
1975	January	7.78	12.77	9.48
	February	8.29	13.05	10.09
	March	8.38	13.28	9.91
	April	8.23	13.26	9.83
	May	8.33	13.27	9.79
	June	8.33	14.15	10.33
	July	8.37	14.03	10.57
	August	8.48	14.25	10.81
	September	8.49	14.04	10.79
	October	8.68	14.66	10.85
	November	8.67	15.04	11.05
	December	8.66	14.81	10.98
	AVERAGE	**8.39**	**13.93**	**10.38**
1976	January	9.14	13.27	10.76
	February	8.67	13.26	10.54
	March	8.48	13.51	10.44
	April	8.66	13.39	10.63
	May	8.62	13.41	10.66
	June	8.60	13.48	10.88
	July	8.72	13.51	10.97
	August	8.65	13.58	10.78
	September	8.95	13.47	11.08
	October	9.13	13.49	11.20
	November	9.23	13.58	11.26
	December	9.25	13.71	11.32
	AVERAGE	**8.84**	**13.48**	**10.89**
1977	January	9.23	14.11	11.64
	February	9.24	14.50	11.80
	March	9.32	14.54	11.88
	April	9.21	14.36	11.75
	May	9.21	14.62	11.87
	June	9.34	14.63	11.98
	July	9.32	14.44	11.90
	August	9.54	14.68	12.01
	September	9.75	14.50	12.01
	October	9.95	R14.56	R12.12
	November**	10.16	14.61	12.19

*See Explanatory Note 16.
**Preliminary data.
R=Revised data.
Sources: 1974 through January 1976–Form FEO-96 "Monthly Cost Allocation Report;" February 1976 forward–FEA Form P110-M-1 "Refiners' Monthly Cost Allocation Report."

Crude Oil Refiner Acquisition Cost



Estimated Landed Cost of Imported Crude Petroleum From Selected Countries*

		Algeria	Canada	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	U.A. Emirates	Venezuela
		Dollars per barrel								
1975	January	12.72	12.43	13.30	12.11	12.56	12.07	12.07	13.14	11.37
	February	12.11	12.15	13.52	11.86	11.80	12.18	11.94	12.67	11.56
	March	12.46	12.79	13.94	12.08	12.47	12.56	11.78	13.40	11.66
	April	12.36	12.95	13.71	12.34	11.98	12.46	12.16	12.55	11.61
	May	12.41	12.08	13.71	11.93	11.85	12.34	12.27	13.29	11.54
	June	12.37	11.90	13.73	12.51	12.25	12.49	11.93	12.48	11.51
	July	12.69	12.15	13.98	11.83	11.96	12.37	12.08	12.78	11.46
	August	12.68	12.27	13.85	12.17	12.01	12.32	12.10	12.60	11.44
	September	12.52	12.63	13.75	11.97	12.08	12.42	12.17	12.49	11.42
	October	13.45	13.02	14.00	12.27	12.64	13.18	12.64	12.85	12.08
	November	13.28	14.00	13.81	12.47	13.17	13.37	12.58	13.23	12.38
	December	13.46	13.96	13.92	13.01	13.27	13.57	12.93	13.21	12.31
	AVERAGE	**12.72**	**12.72**	**13.79**	**12.21**	**12.35**	**12.62**	**12.30**	**12.87**	**11.65**
1976	January	13.56	12.95	13.89	13.01	13.52	13.61	13.18	13.50	11.60
	February	13.57	13.24	13.94	12.87	13.45	13.52	13.21	13.36	12.09
	March	13.83	13.30	13.94	12.77	13.36	13.62	13.18	13.37	11.71
	April	13.73	13.61	13.78	12.91	13.38	13.60	13.11	13.18	11.95
	May	13.47	13.62	13.84	12.82	13.59	13.62	13.05	13.39	11.61
	June	13.75	14.19	13.84	13.00	13.38	13.78	13.14	13.09	11.55
	July	13.77	13.79	13.80	12.76	13.53	13.81	13.02	13.45	11.44
	August	13.91	13.78	13.78	13.09	13.51	13.87	13.03	13.23	11.77
	September	14.03	13.70	13.80	12.78	13.72	13.82	12.87	13.44	11.98
	October	13.81	13.71	13.84	12.73	13.83	13.99	12.87	13.22	11.84
	November	13.84	13.59	13.77	12.58	13.73	13.95	13.01	13.18	12.01
	December	14.14	13.52	13.75	12.69	13.79	14.11	13.02	13.29	12.19
	AVERAGE	**13.81**	**13.57**	**13.82**	**12.82**	**13.58**	**13.80**	**13.04**	**13.30**	**11.80**
1977	January	14.80	13.92	14.42	13.16	14.64	14.97	13.22	13.56	13.29
	February	15.18	13.74	14.57	13.56	15.12	15.12	13.32	13.46	13.76
	March	15.08	14.34	14.64	13.94	14.88	15.13	13.50	13.80	13.41
	April	15.21	14.02	14.70	13.95	15.12	15.37	13.41	13.78	13.19
	May	15.20	14.94	14.59	13.94	14.91	15.40	13.49	13.85	13.10
	June	15.34	14.49	14.63	13.81	14.92	15.37	13.39	13.72	13.06
	July	15.29	13.91	14.75	13.84	14.88	15.39	13.64	14.20	13.02
	August	15.24	14.24	14.65	13.99	14.70	15.25	13.72	14.36	12.82
	September	15.29	14.14	14.62	13.77	14.99	15.34	14.01	14.41	13.08
	October	15.41	14.00	14.67	13.83	14.81	15.31	13.85	14.56	13.16
	November	15.05	14.52	14.73	13.88	14.73	15.23	13.94	14.19	13.11

*See Explanatory Note 17.
Source: FEA Form F701-M-O "Transfer Pricing Report."

Crude Oil (Continued)

Estimated FOB Cost of Imported Crude Petroleum from Selected Countries

		Algeria	Canada	Indonesia	Iran	Libya	Nigeria	Saudi Arabia	U.A. Emirates	Venezuela
		Dollars per barrel								
1975	January	12.09	10.10	11.98	10.78	11.93	11.51	10.63	11.26	10.91
	February	11.83	9.05	12.20	10.62	11.60	11.57	10.55	11.43	11.15
	March	12.02	11.28	12.55	10.81	11.94	11.77	10.78	11.13	11.11
	April	11.82	10.49	12.60	10.85	11.36	11.77	10.78	11.05	11.06
	May	11.69	10.79	12.64	10.62	11.10	11.63	10.93	10.90	10.91
	June	11.52	10.05	12.59	10.90	11.02	11.64	10.66	10.74	10.89
	July	11.80	9.93	12.44	10.67	11.08	11.49	10.70	11.04	10.87
	August	11.72	10.20	12.56	10.80	11.17	11.60	10.64	10.87	10.78
	September	11.78	10.33	12.48	10.59	11.23	11.59	10.96	11.04	10.82
	October	12.63	10.86	12.73	10.97	11.81	12.45	11.17	11.14	11.49
	November	12.59	11.17	12.72	11.54	12.34	12.69	11.50	11.67	11.59
	December	12.74	NA	12.76	11.61	12.32	12.81	11.48	11.88	11.67
1976	January	12.96	NA	12.77	11.61	12.34	12.85	11.67	11.91	11.15
	February	12.89	NA	12.77	11.48	12.34	12.85	11.64	11.93	11.61
	March	12.93	NA	12.78	11.45	12.34	12.94	11.71	11.91	11.26
	April	12.98	NA	12.74	11.58	12.39	12.95	11.72	11.94	11.38
	May	13.01	NA	12.76	11.58	12.45	12.97	11.61	11.85	11.10
	June	13.02	NA	12.74	11.62	12.40	12.97	11.64	11.92	11.03
	July	13.06	NA	12.79	11.64	12.64	13.11	11.58	11.89	10.87
	August	13.06	NA	12.75	11.61	12.52	13.08	11.58	11.92	11.19
	September	13.12	NA	12.73	11.66	12.66	13.06	11.55	11.97	11.53
	October	13.09	NA	12.79	11.63	12.70	13.25	11.65	11.92	11.41
	November	13.12	NA	12.71	11.62	12.74	13.25	11.62	11.96	11.58
	December	13.21	NA	12.82	11.78	12.83	13.36	11.65	12.16	11.77
1977	January	14.03	NA	13.41	12.03	13.64	14.11	11.92	12.53	12.91
	February	14.31	NA	13.43	12.36	13.89	14.24	12.04	12.33	13.30
	March	14.29	NA	13.58	12.79	13.87	14.32	12.24	12.51	12.98
	April	14.34	NA	13.55	12.79	13.98	14.51	12.23	12.53	12.62
	May	14.31	NA	13.57	12.78	13.93	14.56	12.23	12.56	12.60
	June	14.35	NA	13.55	12.68	13.94	14.55	12.21	12.44	12.53
	July	14.43	NA	13.61	12.78	13.99	14.52	12.40	12.70	12.48
	August	14.48	NA	13.63	12.80	13.95	14.54	12.56	13.15	12.37
	September	14.43	NA	13.64	12.73	13.99	14.56	12.72	13.20	12.55
	October	14.43	NA	13.65	12.79	13.93	14.48	12.70	13.22	12.72

Source: FEA Form F701-M-0 "Transfer Pricing Report."

Unrecouped Costs for Refined Products for 30 Largest Refiners

		Distillate*	Motor Gasoline	Aviation Jet Fuel**	Other Products	Total
			Millions of dollars			
1975	January	254	431	–	672	1,357
	February	300	418	–	790	1,508
	March	282	452	–	966	1,700
	April	302	485	–	807	1,594
	May	292	370	–	771	1,433
	June	284	266	–	785	1,334
	July	233	219	–	624	1,075
	August	280	344	–	583	1,208
	September	347	335	–	661	1,342
	October	338	245	–	673	1,255
	November	426	275	–	796	1,497
	December	446	211	–	826	1,483
1976	January	336	242	131	515	1,224
	February	279	336	145	456	1,216
	March	263	316	163	456	1,198
	April	237	398	180	524	1,339
	May	264	632	161	446	1,503
	June	–	628	135	349	1,112
	July	–	587	129	384	1,100
	August	–	679	125	352	1,156
	September	–	619	134	340	1,093
	October	–	733	151	372	1,256
	November	–	796	168	368	1,332
	December	–	723	139	317	1,179
1977	January	–	901	166	325	1,392
	February	–	1,038	187	303	1,528
	March	–	956	180	287	1,423
	April	–	1,029	194	343	1,566
	May	–	968	199	328	1,495
	June	–	956	232	347	1,535
	July	–	869	210	387	1,466
	August	–	735	208	454	1,397
	September	–	746	182	494	1,422
	October	–	R833	R243	R504	R1,580
	November***		856	212	532	1,600

*Includes No. 2 heating oil and No. 2 diesel fuel only. After May 1976, reporting of the distillate bank is no longer required due to decontrol of middle distillates.
**Prior to January 1976 refiners were not required to maintain separate banks for aviation jet fuel.
***Preliminary.
R=Revised data.
Source: FEA Form P110-M-1 "Refiners' Monthly Cost Allocation Report."

Natural Gas

Natural Gas Prices Reported by Major Interstate Pipeline Companies

		PURCHASES			SALES		
		From Domestic Producers	From Canadian and Mexican Sources	Total Purchases	To Industrial Users*	To Resellers**	Total Sales
		Cents per thousand cubic feet					
1975	January	30.4	104.0	35.8	67.8	70.9	71.2
	February	29.5	105.9	35.2	70.1	74.0	74.3
	March	33.5	102.5	38.8	70.4	77.7	77.8
	April	32.8	102.8	38.3	71.1	82.3	81.9
	May	34.7	100.6	39.8	71.1	83.7	82.8
	June	35.3	98.9	40.2	72.2	85.1	83.9
	July	36.7	101.1	41.7	73.9	84.6	83.6
	August	35.5	141.0	43.3	73.4	86.5	85.1
	September	36.5	141.1	44.4	72.8	85.9	84.7
	October	36.0	140.1	44.3	77.2	85.9	85.4
	November	36.5	162.5	46.7	77.8	86.9	86.6
	December	35.9	161.8	46.0	81.1	79.6	80.1
1976	January	38.6	164.0	48.6	87.5	88.7	89.2
	February	39.5	165.3	49.5	87.7	92.3	92.7
	March	39.5	164.5	49.7	86.4	89.8	90.2
	April	40.6	164.3	51.2	88.6	100.2	99.7
	May	42.4	165.1	52.5	86.9	98.3	97.6
	June	43.7	166.6	53.7	89.5	98.2	98.5
	July	43.6	168.4	53.2	94.3	101.8	101.1
	August	56.4	167.7	65.3	97.8	104.8	104.1
	September	68.5	183.7	77.7	103.5	92.5	94.1
	October	57.4	190.1	68.8	106.4	105.4	105.7
	November	52.6	182.4	63.3	112.9	106.1	106.9
	December	54.0	189.4	65.2	131.3	117.3	118.8
1977	January	58.8	201.8	71.5	143.1	124.4	125.4
	February	63.5	199.0	76.5	131.0	130.0	130.7
	March	69.8	200.4	83.4	129.8	132.2	132.5
	April	65.2	190.7	76.4	116.8	130.9	131.4
	May	69.1	191.3	80.4	128.4	133.9	133.6
	June	69.2	189.1	79.6	125.6	135.1	134.2
	July	72.1	187.7	81.8	134.5	135.9	135.8
	August	71.1	185.5	81.5	133.9	134.0	134.0
	September	71.8	194.7	84.0	131.8	135.7	135.2

*Represents direct sales by pipeline companies to industrial users. Does not include sales to industrial users by resellers.
**Includes the cost of gas to the distributing utility at entrance of distribution system or point of receipt.
Source: Federal Power Commission Form 11, "Natural Gas Pipeline Company Monthly Statement."

Intrastate Natural Gas Prices for Selected States by Type of Contract*

	California		Kansas		Louisiana		Oklahoma		Texas	
	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended	New Contracts	Renegotiated or Amended
					Cents per thousand cubic feet					
1975										
January	75.00	76.89	55.30	—	98.04	102.96	95.99	76.03	139.90	164.04
February	—	—	—	—	128.68	113.06	97.30	64.49	154.72	163.11
March	—	—	—	—	115.78	125.89	107.70	55.05	96.66	97.50
April	—	—	64.65	45.24	149.78	134.81	132.58	87.79	160.09	176.32
May	—	—	—	—	126.80	123.53	129.31	106.56	156.72	158.59
June	—	53.68	65.00	—	130.91	129.57	94.22	120.29	165.00	187.54
July	—	65.51	—	—	117.22	125.63	133.87	114.62	183.22	178.22
August	—	75.00	198.24	—	132.87	114.20	136.77	121.21	151.87	132.50
September	—	86.00	152.89	70.38	121.89	141.23	143.73	106.69	169.87	180.77
October	135.53	—	—	—	75.16	117.60	143.09	144.14	168.10	187.30
November	—	—	157.95	139.02	138.42	71.65	140.61	133.15	149.43	182.17
December	—	—	—	80.00	139.64	131.92	132.50	153.86	187.20	140.90
1976										
January	—	83.97	103.81	84.54	138.75	131.23	149.87	109.39	181.05	193.31
February	—	40.00	—	109.68	125.00	145.30	133.72	146.71	176.63	191.54
March	—	—	150.36	—	145.66	155.39	162.83	168.57	178.70	176.44
April	195.00	—	150.00	—	142.99	154.05	162.12	148.30	202.60	152.95
May	122.00	60.39	180.39	149.84	125.54	106.05	156.35	164.02	154.00	197.22
June	—	—	114.45	150.82	147.11	137.67	169.56	168.14	178.01	192.98
July	—	117.15	137.57	150.83	127.55	141.71	148.20	95.00	151.19	176.23
August	—	97.38	—	—	138.70	164.23	151.81	171.49	157.98	198.81
September	—	—	—	125.68	164.10	156.39	164.85	172.00	184.07	197.66
October	—	—	—	111.72	144.64	149.91	163.48	161.16	196.58	188.80
November	—	—	150.82	144.21	—	131.91	162.57	90.73	186.80	182.82
December	—	97.47	160.73	—	194.51	152.45	167.55	175.98	198.71	202.54
1977										
January	—	105.58	155.49	—	155.82	137.65	172.35	167.49	193.36	204.06
February	—	107.27	121.66	—	141.33	120.84	147.86	131.27	185.55	203.22
March	119.79	116.28	148.18	—	219.43	208.97	168.57	168.28	197.14	190.83
April	—	—	137.10	156.38	216.41	150.35	165.61	167.89	192.22	205.44
May	—	107.20	119.00	—	197.53	158.97	156.52	171.09	204.06	201.27
June	—	112.21	91.49	—	180.21	169.61	166.69	169.51	194.54	206.41
July	—	139.02	88.57	174.53	174.90	169.64	172.95	168.25	206.96	202.46
August	—	—	131.97	90.49	177.99	166.66	164.33	158.46	188.96	183.57
September	—	—	—	136.66	163.72	162.49	171.78	172.70	167.14	212.44

*Prices are for FPC jurisdictional natural gas companies selling more than 1 billion cubic feet per year in interstate commerce.
Source: Federal Power Commission Form 45, "Summary of Intrastate Natural Gas Prices."

Natural Gas (Continued)

Average Retail Prices for Natural Gas Sold to Residential Customers for Heating Use

		Cents per thousand cubic feet
1975	January	141.2
	February	144.7
	March	146.1
	April	150.6
	May	153.7
	June	155.7
	July	154.7
	August	155.4
	September	159.4
	October	160.6
	November	166.2
	December	170.2
1976	January	171.4
	February	175.2
	March	177.0
	April	178.4
	May	180.8
	June	183.2
	July	184.5
	August	185.8
	September	191.2
	October	195.0
	November	198.3
	December	208.3
	AVERAGE	**185.8**
1977	January	213.8
	February	217.0
	March	219.9
	April	223.7
	May	227.0
	June	227.3
	July	229.9
	August	230.1
	September	230.4
	October	235.1
	November	238.4
	December	237.3

Source: Bureau of Labor Statistics.

Utility Fossil Fuels

U.S. Average Delivered Prices of Coal at Utilities

		Contract	Spot
		Dollars per short ton	
1975	January	14.57	28.12
	February	15.71	25.93
	March	15.68	25.02
	April	15.88	24.52
	May	16.45	23.78
	June	16.40	23.36
	July	16.06	22.35
	August	16.65	22.39
	September	16.76	22.46
	October	16.72	22.52
	November	16.79	22.50
	December	16.90	22.40
1976	January	16.53	21.75
	February	17.04	21.23
	March	17.65	21.36
	April	17.76	21.43
	May	18.12	21.17
	June	18.05	20.88
	July	17.93	21.00
	August	18.19	21.35
	September	18.55	21.46
	October	18.49	21.28
	November	18.26	21.56
	December	18.15	21.49
1977	January	17.87	21.93
	February	18.28	22.71
	March	18.75	23.27
	April	18.82	22.41
	May	18.97	23.73
	June	19.03	24.62
	July	19.35	25.13

Source: Federal Power Commission Form 423.

Utility Fossil Fuels (Continued)

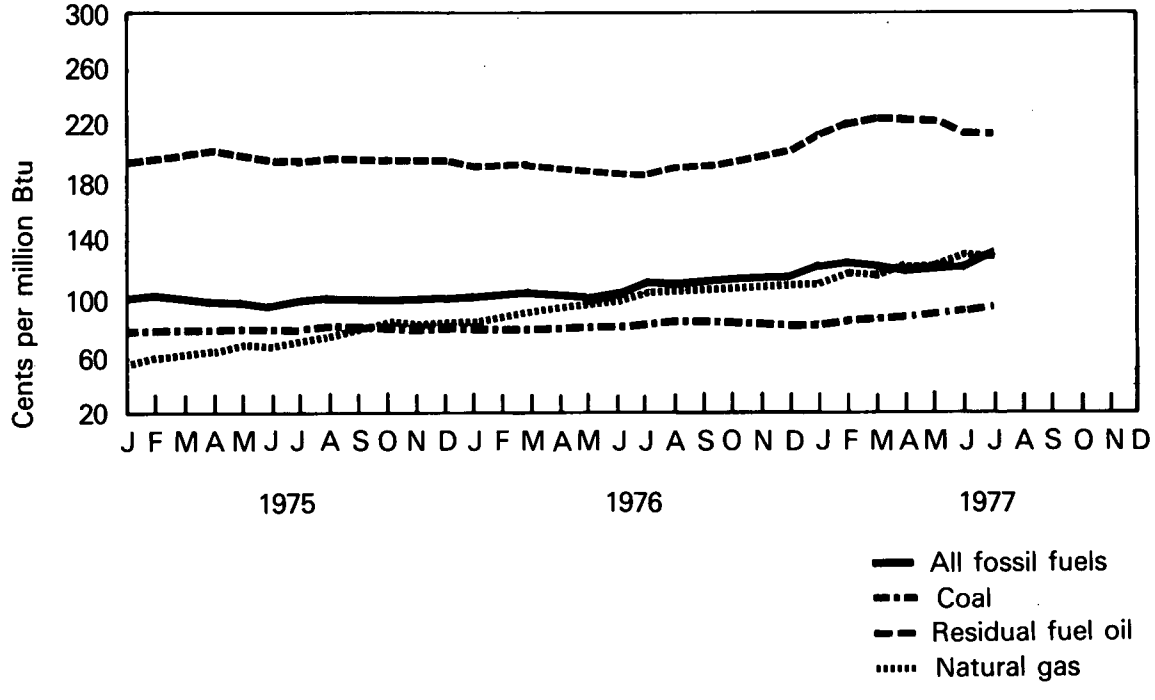
COST OF FOSSIL FUELS DELIVERED TO STEAM ELECTRIC UTILITY PLANTS

All Fossil Fuels*

Region	1976 JULY	AUG	SEPT	OCT	NOV	DEC	1977 JAN	FEB	MAR	APR	MAY	JUNE	JULY
	Cents per million Btu												
New England	172.4	173.7	176.6	184.0	186.9	197.0	207.7	211.4	225.3	213.9	215.1	213.3	209.9
Middle Atlantic	144.5	140.2	135.2	136.8	139.8	146.5	161.8	162.1	152.2	149.9	149.4	152.1	167.9
East North Central	100.9	97.6	95.2	95.8	96.8	94.4	104.1	102.7	104.0	102.6	103.9	107.3	109.7
West North Central	70.8	75.1	76.1	73.5	76.1	78.5	85.4	85.3	82.0	79.0	82.5	84.0	87.9
South Atlantic	130.7	126.2	125.6	127.2	129.1	134.7	146.5	142.5	137.3	132.7	133.8	137.9	148.9
East South Central	93.2	94.6	94.4	93.8	92.3	96.7	99.8	101.8	100.1	100.3	102.3	104.5	110.4
West South Central	101.2	102.9	102.4	101.6	106.2	106.9	113.6	119.8	116.9	117.5	117.2	124.3	123.2
Mountain	55.4	57.9	55.3	55.4	54.2	53.9	53.0	55.2	60.4	64.3	68.8	69.9	71.8
Pacific	180.2	195.7	195.9	199.1	214.5	218.9	219.2	213.6	209.8	217.6	219.0	212.6	221.2
NATIONAL AVG.	**113.2**	**112.9**	**110.7**	**111.1**	**115.2**	**118.6**	**126.8**	**128.4**	**123.5**	**122.0**	**123.1**	**125.1**	**133.2**

*See Explanatory Note 18.
Source: Federal Power Commission Form 423.

National Average



Coal

Region	1976 JULY	AUG	SEPT	OCT	NOV	DEC	1977 JAN	FEB	MAR	APR	MAY	JUNE	JULY
	Cents per million Btu												
New England	127.9	127.8	125.4	125.6	125.6	124.4	127.6	126.8	127.5	127.9	128.1	130.1	130.6
Middle Atlantic	107.5	103.3	102.6	102.6	100.2	101.2	105.9	101.2	100.8	102.5	103.1	107.4	111.7
East North Central	92.4	90.9	89.8	89.2	90.2	90.7	90.7	91.5	94.1	93.9	94.3	95.5	99.8
West North Central	65.3	70.1	71.0	69.3	69.6	67.6	66.5	68.4	71.5	72.5	75.5	77.0	77.9
South Atlantic	104.4	103.5	103.4	105.4	103.8	104.1	105.4	106.5	108.1	108.4	110.9	113.9	119.2
East South Central	85.5	85.7	87.2	88.3	87.4	90.6	91.2	94.1	93.6	96.5	95.8	95.0	99.9
West South Central	32.4	36.4	42.4	43.7	51.5	56.6	58.8	61.1	64.3	60.2	60.3	63.9	59.2
Mountain	35.3	36.8	36.2	38.2	39.1	38.1	37.6	38.9	41.1	42.4	46.3	47.4	43.0
Pacific	75.8	75.7	75.7	76.0	75.6	74.5	77.6	80.5	74.0	70.8	70.9	71.2	71.7
NATIONAL AVG.	**85.7**	**86.4**	**86.9**	**86.9**	**86.6**	**86.6**	**85.9**	**88.0**	**89.9**	**90.1**	**91.8**	**93.3**	**96.2**

Residual Fuel Oil*

Region	1976 JULY	AUG	SEPT	OCT	NOV	DEC	1977 JAN	FEB	MAR	APR	MAY	JUNE	JULY
	Cents per million Btu												
New England	175.4	182.8	179.5	188.1	192.0	198.9	213.6	223.5	231.7	218.5	223.4	216.2	212.5
Middle Atlantic	184.3	189.3	190.0	199.5	200.5	208.3	220.5	235.8	237.2	230.8	227.7	223.1	220.5
East North Central	214.8	222.8	221.4	225.8	223.9	227.9	247.5	267.7	257.8	256.3	250.9	248.6	247.1
West North Central	151.3	148.4	149.6	156.8	167.9	191.5	201.0	210.3	205.5	298.7	193.6	186.6	179.0
South Atlantic	174.1	176.6	180.4	184.1	189.2	197.0	212.4	213.7	222.8	217.8	211.7	210.1	207.2
East South Central	171.0	171.3	163.8	166.6	167.8	166.4	166.2	182.7	180.4	180.5	175.7	177.7	175.9
West South Central	173.3	178.6	166.4	176.6	180.3	179.9	192.0	198.1	201.9	200.3	198.3	194.3	187.6
Mountain	217.2	224.8	213.0	221.9	209.3	181.2	201.0	210.9	220.9	220.6	224.9	215.3	232.5
Pacific	228.7	228.8	230.2	231.2	234.1	233.4	231.3	231.0	232.1	235.8	235.2	235.7	240.0
NATIONAL AVG.	**187.0**	**191.8**	**191.9**	**198.8**	**203.5**	**207.5**	**217.2**	**223.3**	**228.0**	**226.2**	**227.7**	**217.8**	**217.0**

Natural Gas**

Region	1976 JULY	AUG	SEPT	OCT	NOV	DEC	1977 JAN	FEB	MAR	APR	MAY	JUNE	JULY
	Cents per million Btu												
New England	154.1	153.9	154.4	155.4	185.2	186.1	200.1	200.1	200.1	200.1	195.9	193.9	185.8
Middle Atlantic	114.8	114.5	122.7	125.2	111.9	127.8	211.3	349.8	155.9	155.4	154.7	144.2	165.5
East North Central	138.2	147.8	148.4	153.0	168.8	188.9	186.5	174.7	170.6	184.7	176.7	177.3	183.5
West North Central	78.4	81.4	81.9	80.8	84.1	84.0	86.1	93.4	88.8	96.0	102.9	104.8	106.7
South Atlantic	88.7	82.9	88.3	89.3	89.1	90.4	80.4	112.1	93.6	85.7	76.2	74.4	91.1
East South Central	136.9	132.5	137.7	158.5	162.2	160.8	165.1	170.3	157.8	154.7	139.7	134.3	148.5
West South Central	100.4	101.6	101.8	101.0	106.6	106.8	108.1	114.6	111.2	113.7	116.5	122.1	122.5
Mountain	90.8	101.7	104.3	112.2	118.2	136.0	133.3	115.0	129.1	134.9	134.4	132.9	133.3
Pacific	146.6	155.3	166.5	169.0	177.5	188.7	196.8	189.2	181.0	204.5	208.9	200.5	211.0
NATIONAL AVG.	**106.2**	**106.5**	**109.8**	**109.9**	**113.1**	**111.3**	**111.1**	**123.5**	**121.1**	**125.6**	**125.6**	**130.5**	**131.7**

*See Explanatory Note 18.
**Includes small quantities of coke oven gas, refinery gas, and blast furnace gas.
Source: Federal Power Commission Form 423.

International

Petroleum Consumption

Petroleum consumption figures for the first 11 months of 1977 are available only for France and Italy, with both countries showing reductions (4.4 percent and 3.0 percent, respectively) from consumption rates during the first 11 months of 1976. January-October consumption in the United Kingdom increased 2.6 percent over the same period of 1976. During the first 9 months of the year, consumption declined 1.7 percent in West Germany and increased 6.5 percent in Japan compared with the similar months of 1976. Eight months of data are available for Canada and the International Energy Agency as a whole. Petroleum use rose 2.4 percent in Canada, 5.6 percent for the total International Energy Agency, and 4.3 percent for "other IEA" (excluding the United States).

Crude Oil Production

World crude oil production in November rose 0.9 million barrels per day (MMBD) over October's level to 60.1 MMBD. Production by the Organization of Petroleum Exporting Countries (OPEC) increased 1.1 MMBD to 31.3 MMBD; production gains in Iraq, Iran, and Saudi Arabia totaling 1.45 MMBD were slightly offset by minor declines in other OPEC nations.

Petroleum Consumption

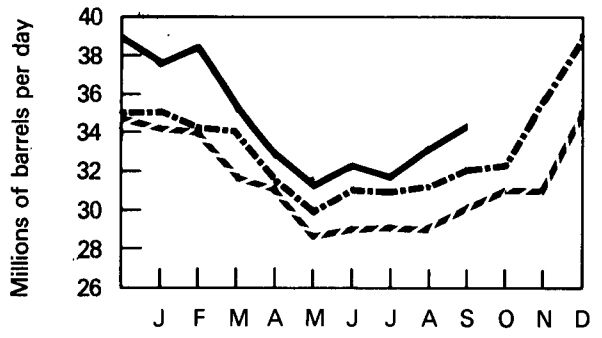
Petroleum Consumption for Major Free World Industrialized Countries

		Total IEA*	Japan**	West Germany	France***	United Kingdom	Canada	Italy†	Other IEA††
		Thousands of barrels per day							
1973	**AVG.**	**33,600**	**5,000**	**2,693**	**2,219**	**1,974**	**1,597**	**1,525**	**3,467**
1974	**AVG.**	**32,390**	**4,872**	**2,408**	**2,094**	**1,857**	**1,630**	**1,521**	**3,449**
1975	Jan	34,100	4,729	2,183	2,190	1,981	1,691	1,792	3,741
	Feb	34,100	5,191	2,455	2,243	1,907	1,872	1,767	3,825
	Mar	31,600	4,918	2,234	1,952	1,731	1,558	1,558	3,285
	Apr	31,200	4,202	2,431	2,202	1,826	1,592	1,530	3,578
	May	28,600	4,041	2,253	1,640	1,482	1,471	1,174	3,058
	June	29,300	4,135	2,106	1,642	1,416	1,550	1,289	3,195
	July	29,400	4,265	2,319	1,491	1,322	1,493	1,234	2,961
	Aug	29,200	4,234	2,360	1,300	1,208	1,449	1,105	3,082
	Sept	30,400	4,543	2,309	1,785	1,501	1,469	1,465	3,338
	Oct	31,000	4,409	2,328	1,917	1,707	1,555	1,679	2,981
	Nov	31,000	4,747	2,361	2,077	1,723	1,577	1,448	3,423
	Dec	35,100	5,447	2,502	2,658	1,821	1,880	1,600	3,863
	AVG.	**31,235**	**4,568**	**2,319**	**1,925**	**1,633**	**1,595**	**1,468**	**3,382**
1976	Jan	35,100	4,941	2,464	2,432	1,679	1,785	1,775	3,943
	Feb	34,400	5,246	2,497	2,492	1,865	1,754	1,743	3,991
	Mar	34,300	5,165	2,747	2,372	1,879	1,747	1,641	3,907
	Apr	31,500	4,526	2,339	2,116	1,716	1,518	1,423	3,457
	May	29,900	4,218	2,320	1,795	1,417	1,509	1,253	3,221
	June	31,300	4,429	2,393	1,603	1,416	1,560	1,236	3,479
	July	31,100	4,416	2,624	1,624	1,346	1,531	1,355	3,331
	Aug	31,100	4,461	2,515	1,668	1,276	1,585	1,372	3,401
	Sept	32,200	4,517	2,521	1,966	1,477	1,514	1,604	3,818
	Oct	32,300	4,523	2,391	1,908	1,544	1,560	1,464	3,780
	Nov	35,900	5,160	2,700	2,204	1,750	1,822	1,393	4,233
	Dec	39,100	5,846	2,571	2,687	1,869	2,008	1,779	4,593
	AVG.	**33,180**	**4,786**	**2,507**	**2,071**	**1,601**	**1,658**	**1,503**	**3,761**
1977	Jan	37,800	5,428	2,389	2,518	1,830	1,797	1,683	4,191
	Feb	38,700	6,019	2,441	2,386	1,844	1,919	1,809	4,241
	Mar	35,100	5,540	2,518	2,109	1,818	1,664	1,548	3,955
	Apr	32,800	4,713	2,425	2,044	1,670	1,526	1,319	3,486
	May	31,300	4,313	2,359	1,846	1,545	1,523	1,255	3,345
	June	32,400	4,483	2,495	1,715	1,477	1,633	1,327	4,011
	July	31,800	4,715	2,381	1,348	1,321	1,530	1,233	3,157
	Aug	33,300	4,706	2,468	1,390	1,371	1,724	1,135	3,606
	Sept	34,300	4,768	2,566	1,781	1,580	NA	1,484	NA
	Oct	NA	NA	NA	1,866	1,574	NA	1,405	NA
	Nov	NA	NA	NA	2,221	NA	NA	1,605	NA
	AVG. (Year to date)	**34,128**	**4,957**	**2,449**	**1,925**	**1,601**	**1,662**	**1,433**	**3,743**

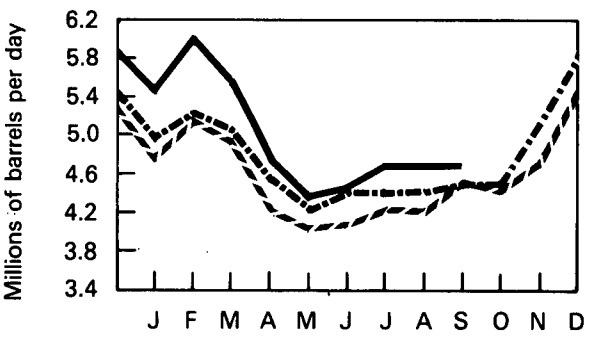
*The 19 signatory nations of the International Energy Agency (IEA) are: Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Except for the United States, inland consumption excludes bunkers, refinery fuel, and losses.
**Excludes liquefied petroleum gases and condensates.
***Not a member of IEA.
†Principal products only.
††Excludes the United States.
NA=Not available.
R=Revised data.
Note: All Total IEA, Other IEA, and recent figures are estimates.
Source: Central Intelligence Agency, National Foreign Assessment Center, *International Energy Biweekly Statistical Review*, 25 January 1978.

Petroleum Consumption

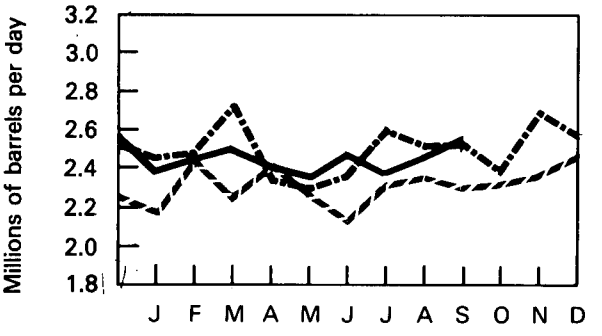
Total IEA



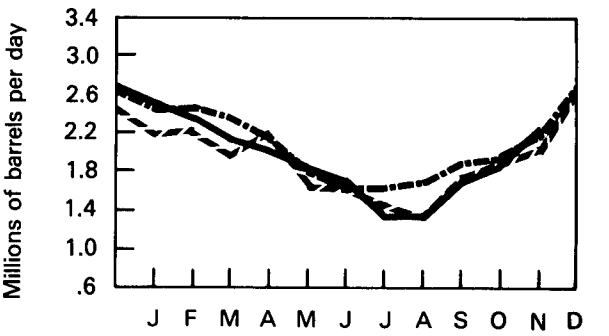
Japan*



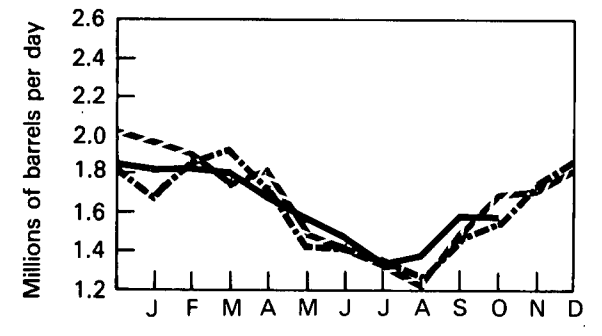
West Germany



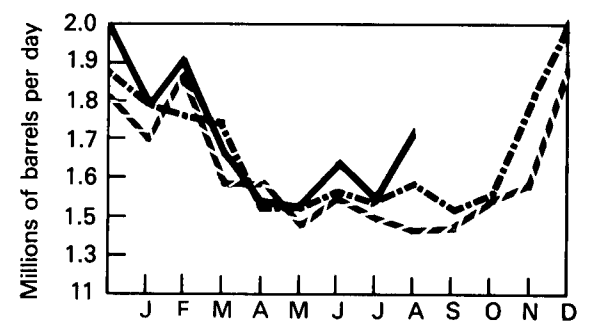
France**



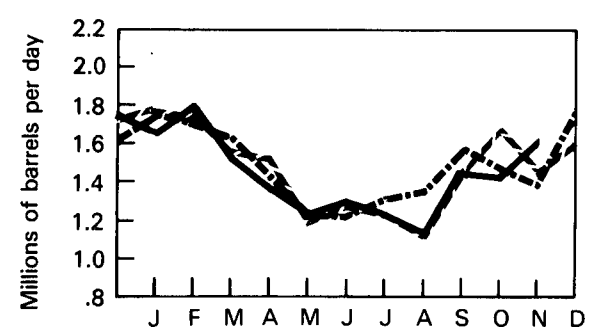
United Kingdom



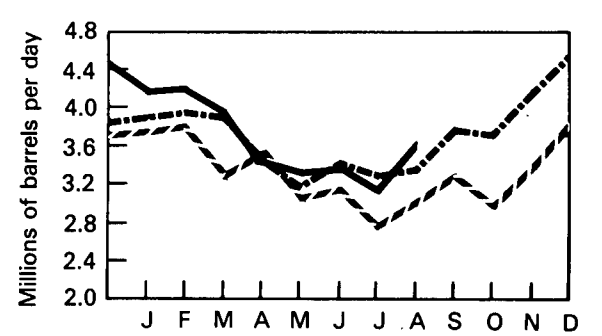
Canada



Italy***



Other IEA†



*Excludes liquefied petroleum gases and condensates.
**Not a member of IEA.
***Principal products only.
†Excludes the United States.

1975
1976
1977

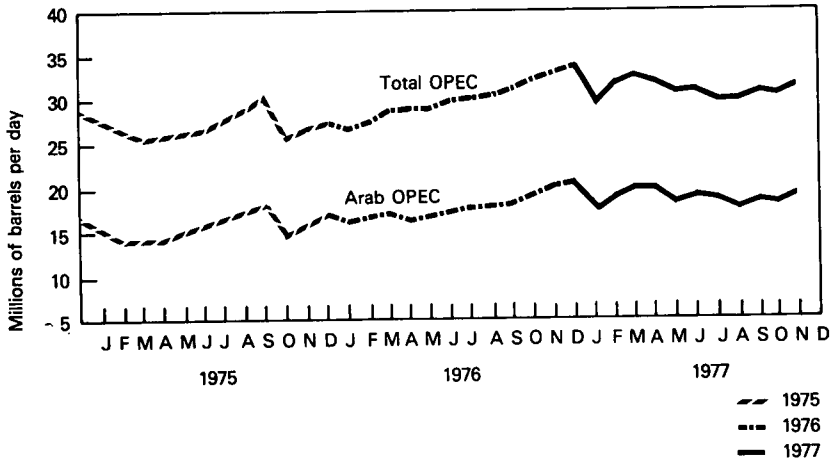
Crude Oil Production

Crude Oil Production for Major Petroleum Exporting Countries–November 1977

Country	Production						Production Capacity	Production Shut in
	1972 Year	1973 Year	1974 Year	1975 Year	1976 Year	1977 November**	November	November
	Thousands of barrels per day							Percent
Algeria	1,040	1,070	960	960	990	950	1,100	13.6
Iraq	1,465	2,020	1,970	2,260	2,415	2,850	3,000	5.0
Kuwait*	3,283	3,020	2,545	2,085	2,145	1,890	3,300	42.7
Libya	2,239	2,175	1,520	1,480	1,935	2,080	2,300	9.6
Qatar	482	570	520	440	495	480	600	20.0
Saudi Arabia*	6,016	7,595	8,480	7,075	8,575	8,930	10,500	15.1
United Arab Emirates	1,202	1,535	1,680	1,665	1,935	1,930	2,390	19.2
Subtotal: Arab OPEC	**15,727**	**17,985**	**17,675**	**15,965**	**18,490**	**19,110**	**23,190**	**17.6**
Ecuador	78	210	175	160	185	180	225	20.0
Gabon	125	150	200	225	225	230	250	8.0
Indonesia	1,080	1,340	1,375	1,305	1,505	1,710	R1,800	5.0
Iran	5,023	5,860	6,020	5,350	5,885	6,090	6,700	9.1
Nigeria	1,815	2,055	2,255	1,785	2,070	1,920	2,300	16.5
Venezuela	3,219	3,365	2,975	2,345	2,295	2,070	2,600	20.4
Subtotal: Non-Arab OPEC	**11,340**	**12,980**	**13,000**	**11,170**	**12,165**	**12,200**	**R13,875**	**12.1**
TOTAL OPEC	**27,067**	**30,965**	**30,675**	**27,135**	**30,655**	**31,310**	**R37,065**	**15.5**
Canada	1,540	1,800	1,695	1,460	1,300	1,448	1,800	19.5
Mexico	440	465	580	720	850	1,030	1,100	6.4
TOTAL OPEC, Canada, Mexico	**29,047**	**33,230**	**32,950**	**29,315**	**32,805**	**33,788**	**R39,965**	**15.5**
TOTAL WORLD	**50,550**	**55,755**	**55,875**	**52,990**	**57,350**	**60,100**		

*Includes about one-half of the former Kuwait-Saudi Arabia Neutral Zone. Production in November 1977 amounted to approximately 380,000 barrels per day.
**Estimated.
Sources: Central Intelligence Agency, National Foreign Assessment Center, *International Energy Biweekly Statistical Review*, 25 January 1978, and National Energy Board of Canada.

OPEC Countries Crude Oil Production



Definitions

Base Production Control Level

1. Prior to February 1, 1976: the total number of barrels of domestic crude oil produced and sold from a particular property in the same month of 1972. If domestic crude oil was not produced and sold from that property in every month of 1972, the total number of barrels of domestic crude oil produced and sold from that property in 1972, divided by 12.

2. Effective February 1, 1976: the total number of barrels of old crude oil produced and sold from the property during calendar year 1975, divided by 365, and multiplied by the number of days in the particular month during 1975. A producer may elect to use the total number of barrels of crude oil produced and sold from the property during calendar year 1972, divided by 366, and multiplied by the number of days in the particular month during 1972.

Branded Independent Marketer

A firm which is engaged in the marketing or distribution of refined petroleum products pursuant to (1) an agreement or contract with a refiner (or a firm which controls, is controlled by, or is under common control with such refiner) to use a trademark, trade name, service mark, or other identifying symbol or name owned by such refiner (or any such firm), or (2) an agreement or contract under which any such firm engaged in the marketing or distribution of refined petroleum products is granted authority to occupy premises owned, leased, or in any way controlled by a refiner (or firm which controls, is controlled by, or is under common control with such refiner), but which is not affiliated with, controlled by, or under common control with any refiner (other than by means of a supply contract, or an agreement or contract described in parts (1) and (2) of this definition), and which does not control such refiner.

Ceiling Price

The maximum permissible selling price, prior to February 1, 1976, for a particular grade of domestic crude oil in a particular field is the May 15, 1973, posted price plus $1.35 per barrel.

Controlled Crude Oil

Crude oil that was domestically produced prior to February 1, 1976, subject to the ceiling price for crude oil. For a particular property which is not a stripper well lease, the volume of controlled oil equals the base production control level minus an amount of released oil equal to the new oil production from that property.

Crude Oil Domestic Production

Domestic crude oil production is measured at the wellhead and includes lease condensate, which is a natural gas liquid recovered from lease separators or field facilities.

Crude Oil Entitlement Value

The average value a refiner receives from the entitlement program for each incremental barrel of imported crude oil. It is calculated by multiplying the entitlement price by the National Old Oil Supply Ratio for November 1974 through January 1976 and by the National Domestic Crude Oil Supply Ratio for February 1976 forward.

Crude Oil Imports

The volume of crude oil imported into the 50 States and the District of Columbia, including imports from U.S. territories, but excluding imports of crude oil into the Hawaiian Foreign Trade Zone.

Crude Oil Input to Refineries

Total crude oil used as input for the refining process, less crude oil lost or used for refinery fuel.

Crude Oil Stocks

Stocks of crude oil and lease condensate held at refineries, pipeline terminals, and on leases.

Cumulative Deficiency

A measure of the cumulative deficit of production below the base production control level after the first month in which new oil was produced and sold from a specific property.

Dealer Tankwagon (DTW) Price

The price at which a dealer purchases gasoline from a distributor or a jobber.

Distillate Fuel Oil

The lighter fuel oils distilled off during the refining process. Included are products known as ASTM grades Nos. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. The major uses of distillate fuel oils include heating, fuel for on- and off-highway diesel engines, and railroad diesel fuel. Minor quantities of distillate fuel oils produced and/or held as stocks at natural gas processing plants are not included in this series.

Domestic Demand for Specific Refined Petroleum Products

A calculated value, computed as domestic production plus net imports (imports less exports), less the net increase in primary stocks. It, therefore, represents the total disappearance of refined products from primary supplies. (See definition for Domestic Demand for Total Refined Petroleum Products.)

Domestic Demand for Total Refined Petroleum Products

Total domestic demand for petroleum products is calculated as inputs to refineries, plus estimated refinery gain, plus hydrogen input, plus natural gas plant liquids production, plus direct use of crude as fuel, plus product imports, less product exports, plus or minus stock change of products. (See definition for Domestic Demand for Specific Refined Petroleum Products.)

Electricity Production

Production at electric utilities only. Does not include industrial electricity generation.

Entitlement Position

The monthly entitlement position of a refiner indicates whether he bought or sold entitlements in that month. An entitlement is the right to process "deemed old oil," which is the sum of a refiner's receipts of "old" oil and a fraction of his receipts of "upper tier" crude oil. This fraction is set monthly by ERA. A refiner must purchase entitlements for the amount of his "deemed old oil" receipts in excess of the national domestic crude oil supply ratio (NDCOSR). The NDCOSR, as calculated by ERA, reflects the differences in costs to refiners of "old" oil, "upper tier" crude oil, and imported crude oil.

Entitlement Price

The price of an entitlement, fixed by ERA, is the exact differential as reported for the month between the weighted average delivered cost per barrel to refiners of both imported crude oil and stripper crude oil, and the weighted average delivered cost per barrel to refiners of "old oil," less 21 cents.

Firm Natural Gas Service

High priority gas service in which the pipeline company is under contract to deliver a specified volume of gas to the customer on a non-interruptible basis. Residential and small commercial facilities usually fall into this category.

Interruptible Natural Gas Service

Low priority gas service in which the pipeline company has the contractual option to temporarily terminate deliveries to customers by reason of claim of firm service customers or higher priority users. Large commercial facilities, industrial users, and electric utilities usually fall into this category.

Jet Fuel

Includes both naphtha-type and kerosene-type fuels meeting standards for use in aircraft turbine engines. Although most jet fuel is used in aircraft, some is used for other purposes, such as for generating electricity in gas turbines.

Jobber

A petroleum distributor who purchases refined product from a refiner or terminal operator for the purpose of reselling to retail outlets and commercial accounts or for the purpose of retailing through his own retail outlets.

Jobber Margin

The difference between the price at which a jobber purchases refined product from a refiner or terminal operator and the price at which the jobber sells to retail outlets. This does not reflect margins obtained by jobbers through retail sales or commercial accounts.

Jobber Price

The price at which a petroleum jobber purchases refined product from a refiner or terminal operator.

Landed Cost

The cost of imported crude oil equal to actual cost of the crude oil at point of origin plus transportation cost to the United States.

Limited Work Authorization

A Limited Work Authorization (LWA) may be granted by the Atomic Safety and Licensing Board of the Nuclear Regulatory Commission to an applicant who wants to construct a nuclear powerplant providing that the project has been cleared for all requirements of the National Environmental Protection Act and that the geologic and topographic suitability of the reactor site has been found satisfactory. The LWA allows an applicant to proceed with site excavation, install temporary construction and service facilities, construct service roads, and erect structures and components not subject to normal quality assurance inspections. It may save a utility from 6 to 8 months in total construction time. However, because the ultimate approval of a construction permit is based on all evidence revealed during the licensing hearings, the successful award of an LWA is no guarantee that a construction permit will also be granted.

Line-Miles of Seismic Exploration

The distance along the earth's surface that is covered by seismic traverses.

Lower Tier Crude Oil

Old crude oil.

Lower Tier Ceiling Price Determination

The lower tier ceiling price for a particular grade of domestic crude oil in a particular field is the sum of (1) the highest posted price at 6 a.m., local time, May 15, 1973, for transactions in that grade of crude oil in that field; or if there was no posted price in that field for that grade of domestic crude oil, the related price for that grade of domestic crude oil which is most similar in kind and quality in the nearest field for which prices were posted; and (2) the amount mandated in the Monthly Price Adjustment Schedules published by ERA in the *Federal Energy Guidelines* (Part 212.77-13847 Appendix).

Major Brand

Lundberg Survey, Inc., defines major brand as an integrated company that produces, refines, transports, and markets in Interstate Commerce under its own brand(s) in 10 or more States.

Motor Gasoline Production

Total production of motor gasoline by refineries, measured at the refinery outlet. Relatively small quantities of motor gasoline are produced at natural gas processing plants, but these quantities are not included.

Motor Gasoline Stocks

Primary motor gasoline stocks held by gasoline producers. Stocks at natural gas processing plants are not included.

National Domestic Crude Oil Supply Ratio

Old oil receipts adjusted for upper-tier receipts, small refiner bias, and other minor adjustments, divided by crude runs to stills adjusted for residual fuel entitlements.

National Old Oil Supply Ratio

Old oil receipts, adjusted for small refiner bias and exemptions, divided by crude runs to stills adjusted for entitlements issued for imported refined products.

Natural Gas Liquids (NGL)

Products obtained from natural gasoline plants, cycling plants and fractionators after processing the natural gas. Included are ethane, liquefied petroleum (LP) gases (propane, butane, and propane-butane mixtures), natural gasoline, plant condensate, and minor quantities of finished products such as gasoline, special naphthas, jet fuel, kerosene, and distillate fuel oil.

New Crude Oil

1. Prior to February 1, 1976: the total number of barrels of domestic crude oil produced and sold in a specific month, less the base production control for that month and less the current cumulative deficiency.

2. Effective February 1, 1976: the total number of barrels of domestic crude oil produced and sold in a specific month, less the property's base production control level for that month and less the current cumulative deficiency since February 1, 1976.

Nonbranded Independent Marketer

A firm which is engaged in the marketing or distribution of refined petroleum products, but which (1) is not a refiner, (2) is not a firm which controls, is controlled by, is under common control with, or is affiliated with a refiner (other than by means of a supply contract), and (3) is not a branded independent marketer.

Old Crude Oil

1. Prior to February 1, 1976: the total number of barrels of crude oil produced and sold from a property in a specific month, less the total number of barrels of new crude oil for that property in that month and less the total number of barrels of released crude oil for that property in that month.

2. Effective February 1, 1976: the total number of barrels of crude oil produced and sold from a property in a specific month, less the total number of barrels of new crude oil for that property in that month.

Primary Stocks of Refined Petroleum Products

Stocks held at refineries, bulk terminals, and pipelines. They do not include stocks held in secondary storage facilities, such as those held by jobbers, dealers, independent marketers, and consumers.

Property

Prior to August 26, 1976, a property was defined as the right to produce domestic crude oil, which arises from a lease or from a fee interest. This definition was interpreted to apply only to a surface lease. In August 1976 the definition of a property was changed so that a producer may treat as a separate property each separate and distinct producing reservoir subject to the same right to produce crude oil, provided that such reservoir is recognized by the appropriate governmental regulatory authority as a producing formation that is separate and distinct from, and not in communication with, any other producing formation. Although this new definition was not implemented until August 26, 1976, it was made effective retroactively to February 1, 1976. (F.R. 36171, August 26, 1976)

Refined Petroleum Products Imports

Imports (into the 50 States and the District of Columbia) of motor gasoline, naphtha-type jet fuel, kerosene type jet fuel, kerosene, distillate fuel oil, residual fuel oil, liquefied petroleum gases, petrochemical feedstocks, special naphtha, lubricants, waxes, asphalt, plant condensate, and unfinished oils. Included are imports of refined products for bonded and military use, and imports from U.S. territories and the Hawaiian Foreign Trade Zone.

Refiner Acquisition Cost

The cost to the refiner, including transportation and fees, of crude petroleum. The composite cost is the average of domestic and imported crude costs and represents the amount of crude cost which refiners may pass on to their customers.

Released Crude Oil

An amount of crude oil produced from a property in a particular month prior to February 1, 1976, which is equal to the total number of barrels of new crude oil produced and sold from that property in that month. The amount of released crude oil for a property in a particular month shall not exceed the base production control level for that property in that month.

Residual Fuel Oil

The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as ASTM grades Nos. 5 and 6 oil, heavy diesel oil, Navy Special Oil, Bunker C oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is

used for the production of electric power, for heating, and for various industrial purposes.

Rotary Rig

Machine used for drilling wells that employs a rotating tube attached to a bit for boring holes through rock.

Separative Work Unit (SWU)

The measure of work required to produce enriched uranium from natural uranium. Enrichment plants separate natural uranium feed material into two groups, an enriched product group with a higher percentage of U-235 than the feed material and a depleted tails group with a lower percentage of U-235 than the feed material. To produce 1 kilogram of enriched uranium containing 2.8 percent U-235, and a depleted tails assay containing 0.3 percent U-235, it requires 6 kilograms of natural uranium feed and 3 kilograms of separative work units (3 SWU).

Startup Test Phase of Nuclear Powerplant

A nuclear powerplant that has been licensed by the Nuclear Regulatory Commission to operate, but that is in the initial testing phase during which production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer, and places it in "commercial operation" status. A request is then submitted to the appropriate utility rate commission to include the powerplant in the rate base calculation.

Stripper Well Property

A property whose average daily production of crude oil per well (excluding condensate recovered in nonassociated production) did not exceed 10 barrels per day during any preceding consecutive 12-month period beginning after December 31, 1972.

Synthetic Natural Gas (SNG)

A product resulting from the manufacture, conversion, or reforming of petroleum hydrocarbons which may be easily substituted for or interchanged with pipeline quality natural gas.

Uncontrolled Crude Oil

That portion of domestic crude oil production including new, released, and stripper oil which, before February 1, 1976, could be sold at a price exceeding the ceiling price.

Unrecouped Costs

Costs which have not been recovered in the current month's product prices but which have been "banked" for later use.

Upper Tier Crude Oil

Effective February 1, 1976, upper tier crude oil included new crude oil and crude oil produced from a stripper well lease. Effective September 1, 1976, upper tier crude oil includes new crude oil only.

Upper Tier Ceiling Price Determination

The upper tier ceiling price for a particular grade of domestic crude oil in a particular field is (1) the highest posted price on September 30, 1975, for transactions in that grade of crude oil in that field in September 1975, or if there was no posted price in that field for that grade of domestic crude oil, the related price for that grade of domestic crude oil which is most similar in kind and quality in the nearest field for which prices were posted; less (2) the amount mandated in the Monthly Price Adjustment Schedules published by ERA in the *Federal Energy Guidelines* (Part 212.77 .13847 Appendix).

Well

A hole drilled for the purpose of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas. Wells are classified as oil wells, gas wells, dry holes, stratigraphic tests, or service wells. This is a standard definition of the American Petroleum Institute.

Explanatory Notes

1. Domestic production of energy includes production of crude oil and lease condensate, natural gas (wet), and coal (anthracite, bituminous, and lignite), as well as electricity output from hydroelectric and nuclear powerplants and industrial hydroelectric power production. The volumetric data were converted to approximate heat contents (Btu-values) of the various energy sources using conversion factors listed in the Units of Measure.

2. U.S. imports of fossil fuels include imports of crude oil, refined petroleum products, and natural gas (dry).

3. Domestic consumption of energy includes domestic demand for refined petroleum products, consumption of coal (anthracite, bituminous, and lignite) and natural gas (dry), electricity output from hydroelectric and nuclear powerplants, industrial hydroelectric power production, and net imports of electric power. Approximate heat contents (Btu-values) were derived using conversion factors listed in the Units of Measure. Electricity imports were converted using the Btu-content of hydroelectric power. 1977 electricity imports were estimated on the basis of the import level for 1976.

4. Domestic demand figures for natural gas liquids (NGL) as reported by BOM and reproduced in this publication do not include amounts utilized by refineries for blending purposes in the production of finished products, principally gasoline. Use of NGL at refineries is reported in a separate column. The production series cited in this publication shows both NGL produced at processing plants and liquefied gases produced at refineries (LRG). NGL produced at refineries is extracted from crude oil and hence, to avoid double counting, should not be included in calculations of total U.S. production of petroleum liquids. The stock series shown in this volume includes natural gas liquids held as stocks at both natural gas processing plants and at refineries and LRG held at refineries.

5. The petroleum short-term demand forecasting model uses historical consumption data to construct regression equations for each of eight major petroleum products on a regional level. Each equation attempts to capture the relationship between final demand for that product and the factors influencing that demand. The explanatory factors used in predicting product demand include (1) macroeconomic variables such as real adjusted gross income, (2) real product prices, (3) variables representing the effects of weather and other seasonal variations in demand, and (4) other factors relevant to a particular product.

Assumptions underlying the current short-term forecast are: normal weather and a level of economic activity producing real GNP growth rates 5.8, 5.4, and 5.1 percent for 1977, 1978, and 1979, respectively.

The supply model includes an assumed level of domestic crude oil and NGL production and inventory changes. Imports are determined as the incremental supply required to meet total demand for refined products not satisfied by domestic production or inventory drawdown.

6. Domestic consumption of natural gas includes the quantities sold to consumers plus the gas used for plant and pipeline fuel after the natural gas liquids have been extracted. All monthly consumption data are estimated. Marketed production of natural gas includes gross withdrawals from the ground less the quantities used for repressuring and the amount vented and flared, before the natural gas liquids have been extracted.

7. The Federal Energy Administration and Federal Power Commission began the coordinated collection and compilation of monthly underground storage information from all underground storage operators in the United States in October 1975. Initial storage information reported was for the month of September 1975. Comparable monthly information for total U.S. storage operations is not available for prior periods.

The total gas in storage is the total volume of gas (base gas plus working gas) in storage reservoirs as of the end of the month. Base gas is the volume of gas, including all native gas in place at the time of conversion to storage, needed as a permanent inventory to maintain adequate reservoir pressures and deliverability rates throughout the withdrawal season. Base gas includes the volumes which will not be recoverable upon termination of storage operations. Working gas is the volume of gas above the designated base gas level available for withdrawal.

8. Bituminous coal and lignite consumption is calculated by EIA from information provided by the Federal Power Commission, Department of Commerce, and reports from selected manufacturing industries and retailers. Domestic consumption data in this series, therefore, approximate actual consumption. This is in contrast to domestic demand reported for petroleum products, which is a calculated value representing total disappearance from primary supplies.

Bituminous coal and lignite production is calculated from the number of railroad cars loaded at mines, based on the assumption that approximately 60 percent of the coal produced is transported by rail. Production data are estimated by EIA from Association of American Railroads reports of carloadings.

9. Class A and B utilities are the only utilities required to report their number of customers on Form 5. Class A and B investor-owned utilities are defined, respectively, as those with annual sales that exceed $2.5 million, and those with annual sales that are between $1 million and $2.5 million. In 1976 there were 212 Class A and B utilities; collectively they represented 80 percent of the total industry kilowatt-hour sales. In the month of June 1977 Class A and B utilities accounted for 77.9 percent of ultimate industrial sales, 74.7 percent of ultimate residential sales, and 85.2 percent of ultimate commercial sales.

10. Quantities of uranium are measured by various units at different stages in the fuel cycle. At the mill, quantities are usually expressed as pounds or short tons of U_3O_8. After the conversion stage, the units of measure are either metric tons (MT) of UF_6 or metric tons of uranium (MTU). The later designation expresses only the elemental uranium content of UF_6

Following the enrichment stage, the same units are used, but the U-235 content has been enhanced at the expense of

loss of material. At the fabrication stage, UF_6 is changed to UO_2, and the standard unit of measure is the MTU. We have chosen to present all uranium quantities as MTU; conversion factors to other units are given in the Units of Measure section.

11. The units used to describe power generation at nuclear plants are based on the watt, which is a unit of power. (Power is energy produced per unit of time.) As with fossil-fueled plants, nuclear plants have three design power ratings. The thermal rating (expressed in thermal megawatts) is the rate of heat production by the reactor core. The gross electrical rating (expressed in electrical megawatts, MWe) is the generator capacity at the stated thermal rating of the plant. The net electrical rating (also expressed in MWe) is the power available as input to the electrical grid after subtracting the power needed to operate the plant. (A typical nuclear plant needs 5 percent of its generated electricity for its own operation.)

The electrical energy produced by a plant is expressed either as megawatt hours (MWhe) or kilowatt hours (KWhe). Tables in the nuclear section show generated electricity as average electrical power. This enables a more direct comparison to design capacity and to previous months' performances. To obtain the quantity of electricity generated during a given time period (in kilowatt hours), multiply the average power level (in kilowatts) by the number of hours during that period.

The energy extracted from uranium fuel is expressed as thermal megawatt days per metric ton of uranium (MWD/MTU). The production of plutonium in the fuel rods is expressed as kilograms of plutonium per metric ton of discharged uranium (kg/MTU).

12. The Residential and Commercial Sector consists of housing units, non-manufacturing business establishments (e.g., wholesale and retail businesses), health and educational institutions, and government office buildings. The Industrial Sector is made up of construction, manufacturing, agriculture, and mining establishments. The Transportation Sector consists of both private and public passenger and freight transportation, as well as government transportation, including military operations. The Electric Utilities Sector is made up of privately- and publicly-owned establishments which generate electricity primarily for resale.

13. Degree-days relate demand for energy to outdoor air temperature. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65°F by convention. Heating degree-days are deviations of the mean daily temperature below 65°F. For example, if a weather station recorded a mean daily temperature of 78°F, cooling degree-days for that station would be 13 (and heating degree-days, 0). A weather station recording a mean daily temperature of 40°F would report 25 heating degree-days (and 0 cooling degree-days).

There are two degree-day data bases maintained by the National Oceanic and Atmospheric Administration. Weekly degree-day information is based on mean daily temperatures recorded at about 200 major weather stations around the country. Monthly data are based on readings at more than 8,000 weather stations. The temperature information recorded at these weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Petroleum Administration for Defense (PAD) Districts and into the national average, also using a population weighting method.

Weekly weather reports are available much sooner than the monthly reports, and therefore the degree-day information published in the *Monthly Energy Review* is normally derived from the weekly source.

14. Prior to January 1975, diesel fuel prices were obtained from retail gasoline dealers that also sold diesel fuel. Beginning in January 1975, the diesel fuel survey was expanded to include selected truckstops plus additional retail gasoline dealers that sold diesel fuel. Selling price estimates are based on a survey of 31 cities. Margins are based on a survey of 10 cities.

15. Prior to February 1976, the domestic crude petroleum wellhead price represented an estimate of the average of posted prices; after February 1976, the wellhead price represents an average of first sale prices. For the 2-year period January 1974 through January 1976, the old oil price at the wellhead was originally estimated to be $5.25 per barrel based on representative postings. This estimate was revised in July 1976 after a survey of crude oil purchasers was implemented and more complete data became available. Estimates of the average old oil price given in the table for months prior to February 1976 are based on prices for old oil reported on new oil leases, and were not derived from a statistically valid sample of old oil leases.

16. The refiner acquisition cost of domestic crude petroleum is the price paid by refiners for domestic crude petroleum, unfinished oils, and natural gas liquids and includes transportation costs from thewellhead to the refinery. The refiner acquisition cost of imported crude petroleum is the average landed cost of imported crude petroleum to the refiner and represents the amount which may be passed on to the consumer. It incorporates transportation costs and fees (including the supplemental import fees) and any other costs incurred in purchasing and shipping crude oil to the United States.

17. The estimated landed cost of imported crude petroleum from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude petroleum from countries which export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

18. The weighted average utility fuel cost for the total United States includes distillate fuel oil delivered to utilities whereas the regional breakdown for residual fuel oil prices represents only No. 6 fuel oil prices.

Units of Measure

Weight

1 metric ton	*contains*	1.102 short tons
1 long ton	*contains*	1.120 short tons

Conversion Factors for Crude Oil

Average gravity

1 barrel	*contains*	42 gallons
1 barrel	*weighs*	0.136 metric tons (0.150 short tons)
1 metric ton	*contains*	7.33 barrels
1 short ton	*contains*	6.65 barrels

Conversion Factors for Uranium

1 short ton (U_3O_8)	*contains*	0.769 metric tons of uranium
1 short ton (UF_6)	*contains*	0.613 metric tons of uranium
1 metric ton (UF_6)	*contains*	0.676 metric tons of uranium

Approximate Heat Content of Various Fuels

Petroleum	
Crude Oil	5.800 million Btu/barrel
Refined products	
Imports, average	6.000 million Btu/barrel
Consumption, average	5.4959 million Btu/barrel
Gasoline	5.248 million Btu/barrel
Jet Fuel, average	5.604 million Btu/barrel
Naphtha-type	5.355 million Btu/barrel
Kerosene-type	5.670 million Btu/barrel
Distillate fuel oil	5.825 million Btu/barrel
Residual fuel oil	6.287 million Btu/barrel
Natural gas liquids	4.023 million Btu/barrel
Natural gas	
Wet	1,095 Btu/cubic foot
Dry	1,021 Btu/cubic foot
Coal	
Bituminous and lignite	
Production	23.50 million Btu/short ton
Consumption	22.80 million Btu/short ton
Anthracite	25.40 million Btu/short ton

Electricity Conversion Heat Rates

Fossil fuel steam-electric	
Coal	10,280 Btu/kilowatt hour
Gas	10,784 Btu/kilowatt hour
Oil	10,804 Btu/kilowatt hour
Nuclear steam electric	10,660 Btu/kilowatt hour
Hydroelectric	10,383 Btu/kilowatt hour
Electricity Consumption	3,412 Btu/kilowatt hour

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U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
Springfield, VA 22161

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CRN780213-00059
DAR-M764/M17802)

Monthly Energy Review